

VALLEY FARMER

NORMAN J. COLMAN, EDITOR.

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ADDRESS, BENJ. BRYAN, PUBLISHER,
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THE ARMY WORM.

ED. VALLEY FARMER: As the season of the year is approaching when the Army Worm makes its appearance, I will state a fact in regard to this destructive insect, which I presume will be new to most of your readers; and did I not know it to be true, I should feel some hesitancy in communicating it, as it is at variance with the opinions of entomologists and all other writers upon the subject. In the July number of the *Valley Farmer* for 1861, in an editorial upon the Army Worm, the Editor says: "The worms do not propagate at all." And I believe it is the generally received opinion, that the worms are produced from the eggs alone. The fact to which I wish to call your attention, is, that the Army Worm *does propagate*—that the young are conceived and brought forth by the female worm. I do not say that they are not produced from the eggs also, but that the worms propagate. I have the evidence of my own eyes

and of those of several persons to whom I showed the young in the womb of the parent worm.

The discovery was made in this way: About the 25th of May last, I passed the evening with my neighbor, Mr. Samuel Grant, who had suffered very much from the depredations of the Army Worm. Mr. Grant invited me to walk out and see their ravages. We went first to a lot of two acres, which had been planted early in corn, and it was six or eight inches high at the time the worms got into it. Nearly every vestige of the corn was destroyed, with the exception of some ten or twelve hills, which were not touched by the worms, and at the time of our visit were from eighteen to twenty-four inches high.

After visiting a large meadow and corn-field adjoining the lot, we walked to a field of rye, the blades and beards of which were eaten off by the worms. Mr. Grant pulled a head of rye on which there was an army worm about an inch long, of a yellowish-brown color.—After examining it to our satisfaction, I attempted to kill it by pressing upon it with a small stick, when something white protruded from the body, which upon closer inspection proved to be young worms. In this army worm, not more than an inch long, we found fifty well-developed young ones about the eighth of an inch in length.

As it was too late to make any further examination, I returned home. Not satisfied, however, with what I had seen, I went the next morning to a ditch I had made between my meadow and corn, and there I found as many subjects as I wished to dissect. The first six or eight I examined, were about the size and color of the one at Mr. Grant's, and I was induced to believe that the color of the female was a yellow-

ish brown and that she was less in size than the male. But upon examining others of darker color and larger size, I found young ones in all the different shades of color and different sizes, from three-quarters of an inch to an inch and a half in length. I examined quite a number of them until I was fully satisfied. I then brought some to the house, and showed them to several members of my family, all of whom were convinced that the worms propagate. Of those I examined, more than three-fourths were females, and each had from fifteen to fifty-four young worms in them. With this ratio of increase, is it any wonder that these destructive insects should so soon muster a sufficient army to devastate our fields?

Every farm on our prairie was visited the past season by these worms, and more or less injury sustained by each; and so far as my observation goes, these pests have invariably made their first appearance at old stack-yards of either grain or grass. They made their first appearance upon my farm at a yard where I had stacked and threshed my oats the preceding year, and where a quantity of the straw still remained. This yard was on and about midway of the northern line of my meadow fence. They next appeared at a yard on the east side of my meadow where I had stacked hay for several years. Their next appearance was at a yard in the centre of the meadow where I had stacked hay for several years, and about two hundred yards south of the oats stack-yard. I noticed that they eat the grass from around these yards before there was one to be seen in the intermediate spaces between the yards. There was a strip fifty or sixty yards wide, the whole depth of the west side of the meadow, where there was scarcely a worm to be seen, and where the grass sustained no perceptible injury, while all the remainder of the meadow was greatly injured. The worms traveled from North to South. My meadow had been in grass seven years.

Now, Mr. Editor, I do not profess to be an entomologist. I have stated facts as they came under my own, as well as the observation of several gentlemen with whom I conversed, and will leave it to others to theorize and philosophize upon the subject. E. S. WASHINGTON.

Nine Mile Prairie, Callaway Co., Mo.

The above communication was handed to us last month, but we concluded to defer its publication until we could obtain the opinion of Benj. D. Walsh, Esq., the well-known Entomol-

ogist, on the points noticed by Mr. Washington. The following is his reply:

ED. VALLEY FARMER: I have been reading, with a great deal of interest, Mr. E. S. Washington's letter on the Army Worm, in which he states that he opened the bodies of a very great number of Army Worms last summer, and inside three-fourths of the number he found whitish larvae about one-eighth of an inch long, varying in number from fifteen to fifty-four in each worm.

So far, so good. I have the most implicit confidence in this statement, because it agrees exactly with what I am witnessing every day of my life. I wish everybody would state their facts as clearly and truthfully, and then there would be less trouble in the world. But although Mr. Washington's facts are correct, the inferences that he draws from those facts are unsound and unreliable, as I hope to prove to his satisfaction before I get through.

Mr. Washington very naturally supposes that these whitish grubs or larvae were young Army Worms, because he found them inside the bodies of full-grown or nearly full-grown Army Worms. Now, an Army Worm has got sixteen legs—six true legs with joints to them, in front, and ten large fleshy bogus legs without any joints, behind—and no larva or grub or caterpillar has a greater number of legs when it is large than when it is small: consequently, if these whitish grubs had really been young Army Worms, they would have had sixteen legs and been able to crawl "a pretty good hickory." I have myself bred from the egg many different kinds of caterpillars (or worms as they are commonly called), and I know this to be so.—When they are no thicker than a fine pin and not over 1-16 inch long, they can walk like a good fellow. And any boy that has ever bred silkworms knows the same thing. Now I am quite sure Mr. Washington must recollect, that these little whitish grubs or maggots had no power to walk, and that they merely wriggled; and if he examined them closely with a magnifying lens, he must have seen distinctly that they had no legs at all: consequently they could not possibly have been young Army Worms.

But if they were not Army Worms, what were they, then? They were, beyond all manner of doubt, the larvae or grubs of some species of Ichneumon fly, whose habit it is to stick its eggs into the body of the living Army Worm, with a long piercer which it has at the hind end of its body, and which a wise Providence has

given it for that express purpose. These eggs hatch out, and the grubs proceeding from them—which have no feet, because the Being that made them knows that in such a situation they have no need of feet—feed on the flesh of the living Army Worm, avoiding the vital parts, but finally destroying it. They then eat their way out, spin a little cocoon of white silk like a kernel of rye, only a great deal smaller, inside which they change into the pupa state; and after a few weeks they make their third and final change into the imago or winged state, burst through the silken cocoon, and come out into the world in the form of small four-winged flies, known to entomologists as Ichneumon flies. Of the three kinds of Ichneumon flies which I have myself bred from the Army Worm, one kind comes out as a general thing without wings—and in that state looks a good deal like an ant or pismire. It may easily, however, be distinguished from an ant by its horns (or antennae) not being flail-shaped, or elbowed, as those of all ants are.

As Mr. Washington lives in an Army Worm district, I dare say he has noticed in the spots frequented by Army Worms, little round, white balls of a cottony substance, each ball about the size of a hickory nut, sticking on to the stems of the Timothy or other grass or weeds. If he had opened one of these balls, he would have found twenty or thirty of the cocoons of these same Ichneumon flies which prey upon the Army Worm, regularly and neatly glued together, side by side. I have had such cottony masses sent me from several Army Worm districts, and have bred Ichneumon flies from them.

I said before that the Ichneumon flies finally destroyed the Army Worms. It is the presence in a farmer's fields of a great number of the dead bodies of Army Worms killed by Ichneumon larvæ or grubs, which has given rise to the popular belief that the Army Worms are killed by the heat of the sun. Insects are too wide awake to be killed by the sun. If an Army Worm finds the sun too hot, he just gathers himself up and crawls into the shade.

It is a good thing not to take every writer's assertion on trust, and such of your readers as are inclined to doubt the truth of what I have been telling them about the Ichneumon fly, may easily satisfy themselves by putting a few dozen Army Worms into a large pot, half filled with moist earth, and covered over with gauze or mosquito bar. The worms must be fed once a day till they go underground, which they will

do if the Ichneumon fly has not laid its eggs in them; and if it has, the experimenter will see its cocoons in the pot, and by placing them under a tumbler he will get the perfect fly in a few weeks. In about five or six weeks from the time that the Army Worms go underground, they will come out in the form of reddish-brown "millers" or moths, unless they have been attacked by another and distinct parasitic insect with only two wings, which goes underground with them and comes out two or three weeks afterwards in the form of a large fly, much resembling a common blow-fly or flesh-fly.

Instead of being alarmed at the prospect of Army Worms producing Army Worms at the fearful ratio of increase which Mr. Washington describes, he ought to bless Heaven for sending into the world these tiny little flies, whose special mission it is to prevent the Army Worm from increasing beyond its appointed bounds.—While the farmer is in bed and asleep, these insignificant beings are putting more money into his pocket than the united labor of a million of men; for there can be no question whatever, that if it were not for the check which Ichneumon flies and other parasitic and cannibal insects form upon the unlimited increase of plant-eating insects, the world in six months would be a desert.

BENJ. D. WALSH.

Rock Island, Ill., May 15, 1862.

OSAGE ORANGE HEDGES.

ED. VALLEY FARMER: In the May number of your journal the inquiry is made—"Will Osage Orange Hedges Stand on Bottom Lands Subject to Overflow?" My experience will not justify me in answering this question directly, but can answer it indirectly.

In the spring of 1861 I set out 5000 plants. A portion of these plants skirted along the edge of a slough or swamp—parts of the line crossed depressions in the ground, which in a very wet time are subject to inundation. During the latter part of last winter and this spring, the ground was completely saturated, and the water stood on each side of the hedge and about many of the plants—this was the case I may say for weeks, perhaps two months—and gave me great uneasiness for their safety. At the present writing, the water has receded—the ground is dry, and the top crust as hard as a salmon brick. Now, what do you suppose has become of the hedge plants? I believe that every one which put out last spring, after planting, is now alive, budding out, and growing

as vigorously as though they stood in high and dry alluvial soil.

While a good plank fence on our prairies will cost from \$600 to \$700—a rail fence some \$400—I verily believe that a better than either can be made by hedging at a cost of not exceeding \$50 per mile! But because it requires a little patience—waiting a little longer—and a little work and care aside from the regular routine of farming—we are apt to take the old beaten track, no matter what it costs. I suppose "our fathers never raised hedges," may be the excuse. I have made inclosures of all the above kinds, and speak from experience on this subject.

* B. A. ALDERSON.

St. Charles, Mo., May 15th, 1862.

ALSIKE CLOVER.

Trifolium Hybridum, or Alsike Clover, is a species which appears, to a certain extent, to combine the properties of the red and white clover. It was considered by Linnaeus to be a hybrid, and is cultivated to a considerable extent in the district of Alsike, in Sweden, from whence it derives its name; and was, we believe, first introduced into this country about 1834 or 1835.

It has for the last few years engaged the attention of agriculturists in Scotland and various parts of England to a considerable extent; and its reputation is now so firmly established, that we think it is likely to become much more extensively sown this season than it ever has been before. Its chief advantage consists in its succeeding on land which from repeated sowings of red and white clover-seed, has become clover-sick.

The treatment required for it appears to be very much the same as for other clovers. Our practice and that of our neighbors, on clay land, has been, to drill about 8 or 9 lbs. of seed per acre, on barley or wheat, about the first week in April, care being taken that the seed is not deposited too deep in the soil. After harvest, if it has been a growing season, we let our sheep occasionally run over it for a month or two, if the weather is fine, our opinion being that the treading of the sheep consolidates the land, and is of great advantage to the Alsike, giving it firm root-hold. About the middle of October, it should be dressed with about six or eight loads of farm-yard dung, as short as can fairly be got. In the spring, it will require the usual bush-harrowing; and when it has made a fair growth, the sheep may again be put on to it, and allowed to remain until the first week in

May, if intended for seed; if not, it can be depastured, as other clovers.

We are decidedly of the opinion that it should not be fed later than the first week in May, if for seed. Still, we have seen it fed until June; but the advantage appears doubtful, as it throws the harvesting of the seed too late in the season, and if dry weather sets in there is some difficulty in getting it to make a good start. Last harvest a considerable quantity was left for seed, and the yield is said to be good, the quality fine, and the price more moderate than it ever has been before. It generally plants well; but last season was an exception, a large breadth of the land sown having missed plant altogether. It has been plowed up for beans, mainly owing, we consider, to the inferiority of last year's seed. In ordinary seasons, even when thin in the spring, it tillers very much, and fills up in a remarkable manner.

When required for mowing, it is left in the same way as red clover, and on land in good fair condition will cut two tons of hay an acre. The feeding qualities of the hay are said to be considerable, but we have seen no analysis of its value compared with ordinary clover hay.

Some difference of opinion is entertained as to the comparative merits of this variety and red clover for the depasturing of sheep; it being affirmed by many growers that sheep will leave any other kind of grass or clover to feed on the Alsike, while others consider that its principal merit consists in succeeding so well on clover-sick soils, its perennial habit and fibrous root being so dissimilar to the red or white clover. Where it has been grown, it has invariably been found an excellent preparation for wheat; and we have no doubt it will shortly become sown quite as extensively as either red or white clover, and prove a most valuable acquisition to our artificial grasses. The more it becomes known, the greater will be its cultivation; the high price that the seed has previously borne, and its scarcity, have hitherto prevented its more extended use.—[*Mark Lane Express*.]

MANGEL WURZEL.—All farmers can raise the Mangel Wurzel. It needs but a rich soil, plowed deep, and kept clear from weeds. The long tests in roots have shown that the mangel is the prince of roots for general feed—especially for cattle. The chemist has demonstrated that this root has nearly twice the nutritive qualities of the common turnip. But, like hay, it needs curing; and this will occupy it till the latter part of winter. It then comes in, and remains good till stock is turned out. F.G.

How to Become a Water Witch.

Abraham Clark, of Stoney Brook, Cal., in the *California Farmer*, tells how a man may become a water witch. He says: "Speaking of making homes in the hills, there are many claims vacant for want of springs of water. I believe water can be found in the hills by digging as well as in the valleys, but I would look for the veins scientifically, that is, with a crotched peach limb, thus. A man in both hands firmly, palms upward, and the but-end of the crotchet pointing up, then walk on slowly, and if you approach a vein the but-end will begin to turn down; pass over back and forth and you will find the identical spot to dig. The crotch won't work in every one's hands, and some don't believe in it; but I know it to be a fact. Try where you *know* there is a vein, or pipe of water running under ground, and if it don't work in your hands let others try it. It did not use to work in my hands, but now does. I tried it crossing my own underground water-pipe (of wood), and it worked like a charm. I found other veins by the same process in different places on my land where I little expected water, which leads me to conclude that there are numerous veins of water in the hills running in every direction, that do not always break out in springs."

Any one ambitious of the power of detecting where springs are found under-ground for the purpose of digging a well, can easily try this experiment. If the power can be obtained in the manner described, it is certainly worth possessing.

[Written for the Valley Farmer.]

SEED AND CULTIVATION.

Fresh seed propagates its kind faithfully, and seldom fails if properly ripened and kept dry. Age interferes with the seeds of some kinds of vegetables. Thus melons will sometimes become unnaturally large when old seed is sown, and the cypripedium will multiply its petals, especially when sown on rich soil. On the other hand, the freshest seed, when sown on poor soil, and the cultivation continued on such soil, will dwindle the flowers, till they reach their original few-petaled state. The smaller the flower, the more concentration of its juices—the sweeter, or the more bitter, or the more pungent. Hence, grasses on poor soil or knolls, are most sought by the herd: they are sweeter and more nourishing. It is the coarse, large fruit that is the most insipid, that has the least flavor. The most liberal culture gives you the largest, but not the best fruit; neither does it make the handsomest, though it produces the largest flowers, for there is not time, in hasty growth, for the coloring matter to elaborate sufficiently; and the various soils always have an effect upon the colors of flowers. Agricultural Chemistry is one of the nicest of Arts.

F. G.

LIME IN AGRICULTURE.

In a paper lately read by Boussingault, before the Paris Academy of Sciences, he stated that lime introduced in an arable soil very quickly sets at liberty a certain quantity of azote in the state of ammonia; the azote elements were before united in insoluble combinations, not assimilable by plants—the action of the lime sets them free, and permits a part of the capital buried in the soil to be utilized for the next crop. Boussingault thinks that certain mineral matters, such as potash and silica, may be liberated in the soil by the lime; that other substances injurious to plants are destroyed or modified by the same agent, and that to these effects is added besides a physical action, changing the constitution of the land. The action of the lime is thus excessively complex, and its good effects can only be explained by studying attentively the special circumstances under which they are produced. The grand fact proved by the present researches of Boussingault is, that there exists in mold, as well in the form of organic matters, as in that of mineral matters, a host of substances completely inert for vegetation, until the moment when some proper agent renders them assimilable by plants. The continuance of experiments can alone clear up these complex facts, and point out to our agriculturists the most effective processes.

Advantages of Deep Draining.

At a late meeting of the Surrey Agricultural Society, Mr. Butcher, a leading agriculturist, on receiving a prize for the best practical results from draining, made the following remarks:

Entering upon an explanation of his plan of drainage, he avowed himself to be a deep drainer, and to have been so for the last thirty years. He remembered to have been laughed at for placing a main drain thirteen feet deep. In the place where he had carried on his operations, the surface drainage had been attempted by one after another most unsuccessfully, but the needs still remained just the same, and could not be cured. He, however, having plenty of energy, and the owner placing at his disposal plenty of money, he had succeeded in restoring an estate which had been represented as irreclaimable. He felt pleased that he had succeeded, because the old men of the day gone by were unable to find out the secret. He found it out thus: that while others were content with mere surface drains, he dug deeper and deeper until he came down to the springs.

He made a deep main drain, while his general drainage was about four feet, though on coming into the farm he found his neighbors' drainage about two feet. He felt that the land he had drained was drained efficiently. He advised that land should not be drained in small por-

tions, and with furrows; but even in a clay soil to allow the moisture to pass quickly through, as if through a colander, without leaving any of it to adhere to the surface. If the water was required to be carried off the surface, it must be done by plowing on a flat surface, and whatever draining was done on stiff land was required to be done deep. On meadow land it was necessary to be careful, and to drain on a proper system, with the drains not too closely connected; always keeping one consideration in mind—not to study an artificial position, but to take nature's surface; and as nature makes the fall of the land, let the workmen take the cut.

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*From the Journal of the Ills. State Agr'l. Society.
Essay on the Cultivation of Field Crops
and Preparation of Soils.*

BY J. B. TURNER, JACKSONVILLE, ILLINOIS.

It can hardly have escaped the notice of intelligent practical men that our popular philosophy of agricultural growth and production is entirely too meagre and narrow, and that the cultivation based upon it must therefore fail of its proposed ends. Hence we find men who know nothing of books and theories oftentimes succeeding far better than those who know much of them; not because books are useless, but because the present theories of our books are too narrow and incomplete; they do not take into full view all, even of the essential facts in the case.

The first question is, why does plowing or cultivation of any sort tend to enrich the soil or increase the crop? What is there in the mere stirring of the soil that should produce such marked and well known results in fact? The popular idea is that it simply mixes together the ingredients already in the soil, and presents them more readily to the rootlets of the plants within the area of the ground so plowed or stirred. Nothing could be more illusory and false, for we need only to consider that more than nine-tenths of every plant grown comes in fact out of the atmosphere, and not originally out of the earth at all, and that the roots of wheat have been known to extend downwards five feet and those of corn ten feet, in order to see that any possible mere scratching of the surface with plows and harrows could do but little good, if that were all, or even the chief part of the benefit to be derived from it.

The real end in plowing, therefore (aside from the mere destruction of noxious weeds, which is purely mechanical), is to put the soil in such a condition, that it may most readily and continuously absorb from the sun and the

atmosphere above, the heat, moisture, and other atmospheric elements of which more than nine-tenths of all plants are composed, at the same time that it most readily absorbs or draws up from the depths of the sub-soil below, by capillary attraction, the remaining mineral ingredients, of which the other one-tenth of vegetation consists. We therefore really plow about ten times as much with reference to the heat and the air, when we plow wisely and successfully, as we do with reference either to the soil or sub-soil. To show the supreme and all-controlling importance of heat alone, in this process, we need only consider the difference of the same soil in productiveness here and in Greenland or under the Equator. To show the importance of due degrees of moisture, neither more nor less, we need only compare swamps, sandy deserts and arable lands, lying in the same latitudes. To show the importance of ammonia and carbonic acid, and other ingredients absorbed from the air, we need only consider the difference between a piece of ground thoroughly pulverized, and prepared for the highest degree of absorption from the air, and the same ground trodden hard or even glazed over at its surface.

These and similar considerations must convince every reflecting mind that heat, moisture and atmospheric absorption from above, connected with capillary absorption or attraction from the sub-soil below, are, after all, the great ends in plowing and cultivation, and not the mere preparation and mixing of the ingredients in that small portion of the soil which it is possible to stir with the plow.

There is no plant cultivated whose roots, in a good soil, do not extend entirely below where the plow ever runs; and many of them derive a greater part of their earthly nutriment from below that point; and if the productiveness of the soil was actually limited to that narrow range which the plow stirs, probably three years cultivation would exhaust the richest soil on earth; whereas, some soils have been known to produce successive crops of grain for hundreds, or even for thousands of years without any manure whatever—as, for example, those soils about Naples.

It has been supposed that the lime and other earthy ingredients in the soil become exhausted by successive croppings, and that for want of these the soil was rendered unproductive. This may be true in some cases; but there is no reason to suppose that these earthy ingredients, in our richest common soils would become exhausted in thousands of years, under any ration-

al system of culture, even if cropped year after year. God did not make the world to wear out or run down in three or five years; and as there is a great system of aqueous circulation which dips the water up out of the ocean and pours it in rain and dew, upon the lands again, to keep up a perpetual supply of moisture, so there is also a great system of conjoint atmospheric and terrestrial circulation, which constantly replenishes the supply of all other materials on good soils needful for vegetable growth, whenever and wherever man puts the surface soil under conditions favorable to their absorption and action. So that, not simply the bare clods which he moves, work with the good plowman who cultivates according to the laws of nature, but the sun, the ocean, the winds, the storms, the light and the darkness, the heat and the cold, the air with all its currents and gasses above, and the earth with all its fluids and treasures beneath—all together and alike conspire and co-operate with him who works according to these inexorable laws, and against him who does not; and if the skillful plowman's plow-share does not literally move the world, still the whole world literally moves to co-operate in the ends which it seeks to accomplish. On the contrary, it is hard for a man to spend his whole life in fighting this law of universal nature, with his bare plow-share, whether he does it according to the rules of the books, or according to the rules of his grandfather.

What, then, are these three great systems of circulation, the aqueous, the terrestrial and the atmospheric or gaseous, by which the exhausted soil is constantly re-supplied with all the watery, earthy and gaseous matter needful to its reproduction?

When we reflect that more than two-thirds of the whole earth's surface is covered with water, and that more than half of the solid globe, earth, ocean, air and all, is made up of those very elements or materials which produce all possible vegetable and animal growth, we need not be in any great fear after all, that our watering pot will become empty, or our manure heap exhausted, if we only learn the art of applying them to their proper ends and uses.

The great system of aqueous circulation which supplies vegetation with water through rains, fogs, clouds and dews from the ocean to the land, and by the rivers and streams pours it back to the ocean again, is sufficiently well known, in its general outlines, to all, and needs no further remark here.

But the great systems of atmospheric and ter-

restrial undulation, or oscillation, so to speak, and their incessant co-operation and interplay upon the surface soil of the globe—the one ministering to the absorption by the earth of those gasses from above, out of which nine-tenths of all vegetable structures are composed, and the other supplying from beneath, by capillary attraction, the earthly matters in solution, out of which the remaining tenth part is made—has never been as fully investigated and understood.

In describing them I shall pretend to no scientific accuracy (for the present state of our knowledge hardly admits of it), but only give my general impressions with reference to the present end in view.

[To be Continued.]

To Preserve Tools from Rust.

Tools of a fine character and polished, if first rendered warm, and then dipped in a saturated lime water, permitting them to dry quickly, will be protected many months from rust. The shovel manufacturers pursue this plan—so also do the manufacturers of razors and other polished cutlery; the film of carbonate of lime formed is so slight as not to dim the polish, while its ability to absorb moisture protects the surface of the metal.

For the rougher tools of the farm which have become polished by use, it is better to apply a thin varnish, made by dissolving one ounce of gum shellac in one quart of alcohol; at ninety-five degrees of strength the alcohol evaporates immediately, leaving a very thin coating of shellac, which will not peel off, and which is entirely water-proof. This is the gum used on the inside of hats to render them water-proof, and it will thoroughly prevent the rusting of plow-shares, spades, knives of reaping machines, etc. We frequently see it recommended to coat bright tools with beeswax, oils, etc. It is true that for a time these substances will protect the surfaces from rust, but when the oxydation does commence, it is more severe than when they are not used. If applied at all, they should be wiped off again, leaving only so much as will scarcely be perceptible.—[Working Farmer.]

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WORN-OUT MEADOWS.—To make old, worn-out meadows as good as new, cover with a thin coat of compost or rotten manure in the fall, or, better, after the crop is harvested. Early in the spring sow plaster and ashes. When the ground is settled, roll with a heavy roller.—Some farmers, in addition, harrow their meadows, and some apply the sub-soil plow, they say, with benefit. The harrow we know is good where Timothy is raised for seed, and the grass is pretty well run out. On good, well-sodded meadows, the harrow and the sub-soil plow would be an injury, especially the harrow. F.G.

Farmers' Club of St. Charles, Mo.

ED. VALLEY FARMER: At the last regular meeting of the "Farmers' Club of St. Charles," it was ordered that a condensed statement of its proceedings be prepared and forwarded to the *Valley Farmer* for publication; I therefore proceed to comply—and should it not be useful to others, may, from some pen, provoke criticism, and thereby attain some good end.

On the 18th of February, 1862, a few farmers met together and adopted a Constitution; the Society to be known as the "Farmers' Club of St. Charles." William Sigerson was elected President, and B. A. Alderson, Secretary.

MARCH 1ST, 1862, FIRST REGULAR MEETING.

Fruit—The preservation of apples through winter. The experience of members gave the preference to burying of apples on the top of the ground, with a good supply of straw under and over them, a light covering of earth, and when hard weather sets in roof them over with shock fodder fifteen inches in thickness—or erect a ridge pole and plank roof in contact with the apples, to support heavy pressure of earth; air-holes may be made by taking a handful of corn-stalks and setting the ends in contact with the apple ridge and extending up through the entire covering.

For spring wheat, fall plowing is essential and sow early in spring.

MEETING APRIL 5TH, 1862.

The Garden—Parsnips should be planted early instead of late as some hold. For late cabbage, plow ground two or three times, and early in June lay off with corn marker and plant seed in hills. The frequent plowing keeps the ground moist, and will prevent a failure of crop from drouth.

Late Potatoes.—Plant Pinkeyes middle of May, and according to variety as late as middle of June. To keep good eating potatoes up to harvest, open them early in the spring, and pour boiling water over as many as are designed to be kept. This kills the eyes and prevents sprouting; then put in a dry place safe from frost. The same effect is said to be produced by putting into your last winter's salt box.

Corn.—Plow deep, cultivate well, feed or hog it off in the fall; plow the ground after the hogs in the fall; next spring plow deep, raise corn, hog it off, and so on crop after crop; selling your hogs each year instead of the corn, and it is said you will surely enrich your land and unquestionably have some money in pocket!

MEETING MAY 3D, 1862.

Valley Farmer.—An article from this valuable

monthly read and approved, on the cultivation of the Virginia Jackson water melon.

There being no sale for the surplus crop of Irish Potatoes, it was deemed advisable to boil, or feed raw to milk cows and other stock. They will produce a fine sleek coat of hair on the horse.

Corn—Germ sound, early planted shallow, when too deep may rot; put in by hand planter, will come up several days earlier than with a hoe; a heavy roller to follow, in either case makes a complete job.

Hog Cholera.—A free supply of stone coal, or slack from the coal pit, is supposed to be a preventive of this disease. Facts stated before the Society from experience of members present, and information from abroad, seem to indicate this treatment as a remedy.

Regular meetings first Saturday in each month, at 3 p. m. **B. A. ALDERSON, Sec'y.**

St. Charles, Mo., May 6, 1862.

[Written for the Valley Farmer.]

Buckwheat as an Exterminator.

Buckwheat, when sown on rich ground, will kill grass effectually. It must be sown as soon as the ground is plowed. In such case, a few crops will even exterminate quack. Buckwheat seems to be poison to other plants; and it is even known to destroy insects. It does this probably by destroying the roots of the grasses and herbs on which the insects feed. No insect touches buckwheat in the ground.

Prepare your soil thoroughly; pulverize, and give it the best tillage; manure added will benefit it, if not already fertile. Then, sown rather plentifully, a clean soil will appear, and a clean crop. If plowed under, and the second crop raised, there will be a garden without weeds, the ensuing year; and the tender grains may be sown with impunity so far as the insects are concerned, especially when lime and ashes have been added the year before. A little salt also (one bushel to six or eight) will aid. In this way, I have known the most obdurate quack soil to be reclaimed, and made fertile and mellow.

F.G.

To Destroy Wire-worms.

Salt and lime are said to be good for this. But guano is an almost infallible remedy when applied so as to reach the vermin. A little thrown into the hill will save tubers. Sown broadcast and harrowed in will reach surface roots.

F.G.

Weights and Measures of Various Farm Products and Other Things, in Various Countries.

In England and America, grain is generally rated by the bushel, though it is not the same measure; for here we use the Winchester bushel, which contains 2,160 42-100 cubic inches. There, since 1826, the legal measure is called the imperial bushel, which contains 2,218 cubic inches; so that 32 of their bushels are about equal to 33 of ours.

The following are the commercial weights of a bushel of different articles, viz: Wheat, beans, potatoes and clover seed, 60 pounds. Corn, rye, flaxseed and onions, 56 pounds. Corn on the cob weighs 70 pounds. Buckwheat, 52; barley, 48; hemp seed, 44; Timothy seed, 45; castor beans, 46; oats, 32; bran, 20; blue grass seed, 14; salt 50, according to one account, but Onondaga salt is 56 (the real weight of course is 85 pounds to the bushel); dried apples, 24; dried peaches, 33, according to a table lately published in numerous papers, but according to our experience both are wrong. We have seen thousands of bushels sold at 22 pounds to the bushel, which will measure about three pecks.

Heaping Measures.—Potatoes, turnips, and esculent roots, apples and other fruits, meal and bran, and in some States oats, are sold by heaping measure, which contains 2,815 cubic inches. The size of a Winchester bushel measure, is a circular ring with straight sides 8 inches high and 18 $\frac{1}{2}$ in diameter. A box 12 inches square, with sides 7.7 1-32 inches high, will hold half a bushel.

Barrel Measures.—Rice, 600 pounds; flour, 196 pounds; powder, 25 pounds; cider and other liquids, 30 gallons; corn, 5 bushels, shelled. By this latter measure crops are estimated, and corn bought and sold throughout most of the Southern and Western States. At New Orleans, a barrel of corn is a flour barrel full of ears. In some parts of the West it is common to count a hundred ears for a bushel.

Ton Weight and Ton Measure.—A ton of hay or any coarse bulky article usually sold by that measure, is twenty gross hundred; that is, 2,240 pounds; though in many places that ridiculous old fashion is being done away with and 2,000 pounds only counted to a ton.

A ton of lumber, if round, consists of 40 cubic feet; if square, 54 feet. A tun of wine, is 252 gallons.

To Measure a Ton of Hay.—One hundred cubic feet of hay, in a solid mow or stack, will weigh a ton.

To Measure Cattle by Compute Weight.—Ascertaining the girth back to the shoulders, and the length along the back, from the square of the buttock, to a point even with the point of the shoulder blade; say the girth is 6 feet 4 inches and the length 5 feet 3 inches, which, multiplied together, gives 31 feet. Multiply this by 23, the number of pounds allowed to the foot, between 5 and 7 feet girth, and the result is 713 pounds, for the number of pounds of beef in the four quarters. Girths, from 7 to 9 feet allow 31 pounds to the foot. Cattle must be fat and square built to hold out weight.

To Measure Grain in Bins, multiply the length and width together, and that product by the height in cubic inches, and divide by 2,150 and you have the number of bushels.

To Measure Corn in the Ear, find the cubic inches as above, and divide by 2,815, the cubic inches in a heaped bushel, and take two-thirds of the quotient for the number of bushels of shelled corn. This is upon the rule of giving three heaping half bushels of ears to make a bushel of grain. Some falls short and some overruns this measure.

Board Measures.—Boards are sold by the face measure. Multiply the width in inches by any number of pieces of equal length, by the inches of the length. Divide by 144, and the quotient is the number of feet for any thickness under an inch. Every fourth inch increase of thickness adds a fourth to the number of feet in the face measure.

Land Measure.—Every farmer should have a rod measure, a light stiff pole, just 16 $\frac{1}{2}$ feet long, for measuring land. By a little practice he can learn to step just a rod at five steps, which will answer very well for ordinary farm work. Ascertain the number of rods in width and length of any lot you wish to measure, and multiply one into the other and divide by 160, and you have the number of acres, as 160 square rods make a square acre. If you wish to lay off one acre square, measure 13 rods upon each side. This lacks one rod of being full measure.

Government Land Measure.—A township is six miles square, and contains 36 sections, 23,040 acres. A section, one mile square, 640 acres. A quarter section, half a mile square, 160 acres. As this is 160 rods square, a strip one rod wide, or every rod in width, is an acre. A half quarter section is half a mile long, north and south, almost universally, and a fourth of a mile wide, 80 acres. A quarter-quarter section is one-fourth of a mile square, 40 acres, and is the smallest sized tract, except fractions, ever sold by the government. The price is \$1,25 an acre.

Scripture Measures.—“A Sabbath Day’s Journey” is 1,155 yards—about two-thirds of a mile. A Day’s Journey is 33 $\frac{1}{2}$ miles. A Reed is 10 feet 11 $\frac{1}{2}$ inches. A Palm is 2 inches. A Fathom is 6 feet. A Greek Foot is 12 $\frac{1}{2}$ inches. A Hebrew Foot is 1 212-1000 English feet. A Cubit is 2 feet. A Great Cubit is 11 feet. An Egyptian Cubit is 21 888-1000 inches. A Span is 10 944-1000 inches.

As the superficies of all our States and countries are expressed in square miles, it should be borne in mind that the contents of a mile is 640 acres.

Number of Square Yards in an Acre.—English, 4,840; Scotch, 6,150; Irish, 7,840; Hamburg, 11,545; Amsterdam, 9,722; Dantzig, 6,650; France (hectare), 11,960; Prussia (morgen), 3,053.

Manure Measure.—This is generally estimated by the load, which is just about as definite as the phrase, “about as big as a piece of chalk.” It ought to be measured by the cubic yard or cord. A cubic yard is 27 cubic feet, each of which contains 1,728 cubic inches. A cubic

cord is 128 cubic feet. As the most of farmers have an idea in their minds of the size of a pile of wood containing a cord, they would readily compare that with the quantity of manure, if stated in cords. Every cart or wagon box before it leaves the maker's shop, ought to have the cubic feet and inches it will contain, indelibly marked upon it. This would enable the owner to calculate the amount of his load of grain, roots, earth, stone, or manure.

[For the Valley Farmer.]

ROT IN POTATOES.

We have known people to cut off the tops of their potato vines, with benefit against the rot—not obviating it, but retarding it, and lessening it. We have also seen the same stated in agricultural journals. The rot proceeds from the vines; or, in other words, is located there; for the potato is part of the vine, or a continuation of the same. It is the thread-like roots of the potatoe that are the roots proper, and not the tuber, which is part of the vine underground, and thickened in consequence, and variously colored. If exposed to the air, it is uniformly green like the vine. Now, then, if the vines can be protected against the rot, the cure is discovered.

Several points have been pretty well established about the rot in potatoes. It is known that it is better to leave the potatoes in the ground, than to dig them as soon as the vines are dead, as all those affected will rot in the hill instead of the cellar; and when dug late, the rotten ones have pretty well disappeared; whereas, if dug early and stowed away, many that appear unaffected will rot, as we cannot always detect the slight signs. The stench also is a great objection—this late digging will obviate.

Potatoes should be stowed away dry. Moisture, in some way, seems to effect the rot. In what way it is not yet known. It was thought that a dry soil lessened the rot. But this is pretty successfully denied. Experience has decided examples against it. A dry season, however, is a different thing. That affects the vine as well as the tuber, and is favorable to the health of the potato.

Some varieties favor the rot more than others. This, I believe, is common experience. Hardiness seems to resist disease. Hence the delicate pink-eye suffers severely. The reader doubtless could name others. This, then, is conclusive, that the disease is one of the vines, aggravated by humidity. Whether an insect or atmospheric influence, certain it is that it is general. If an

insect, the insect must exist throughout the world. It cannot be moisture alone, else the rot had always existed, as moisture is a necessity of growth. It seems more likely to be a species of mildew. If so, its cure will not be so easily effected. Our course, then, is to take advantage of the points we have enumerated, rather than to effect a cure. By thus managing, we may have a fair share of potatoes. F. G.

[Written for the Valley Farmer.]

HARVESTING GRASS.

Grass should be cut when in blossom. That is the best experience now. For horses a little later will be equally good. If cut still earlier, and well secured (which is the main difficulty with early cutting), it will be all the better for general feed, as it approaches nearer the feed in the field—grass. Hay-caps have objections urged against them by some. By the best farmers, however, they are used and recommended. Of course, where a quantity of grass is harvested, the mowing machine cannot be dispensed with. It takes advantage of the weather, selecting the best days—as it can by the speed of its work; and it does its work better, spreading the grass at the same time. But there is another advantage: grass needs stirring, and the tedding machine is the thing for that. In this way grass can be harvested the day it is cut, if salt is used—and this, though there are many objections, (objectors, rather,) is too highly recommended, and too extensively practiced, to be ignored. If salt is dispensed with, the hay-cap will let you over to the next day, or through a rain if that occurs. These aids will enable a man to make hay (good hay) when the sun does not always shine. F. G.

CULTIVATION OF FISH.—R. Buchanan, of Cincinnati, states in the *Ohio Farmer*, that three years ago he made a pond covering about three-fourths of an acre, and about fifteen feet deep in the greatest depth. He stocked it with yellow bass, Oswego bass, white perch, various kinds of sun fish and minnows, and a dozen gold fish. He says: They have multiplied by hundreds, and grown in size beyond all my calculations. The gold fish number several hundred, some of them over a foot in length, and a few of them are beautifully marked with silvery sides and red fins, head and tail; others with golden sides and black fins and tail. The other fish have grown so much that I intend to commence using them for the table in autumn. I have not fed these fish, except for amusement and to tame them, when a few crumbs of bread are thrown in, and the fish called up like chickens.



[Written for the Valley Farmer.]

Medium Sized Animals for Work.

Medio tutissimum ibit.—[OVID.]

Albeit a radical in politics, I have a great respect for the above conservative motto when applied to the size of working stock, be the kind what it may: and I reckon that many of our farmers, in their praiseworthy zeal, are committing a grievous error, under the supposition that the biggest animal is the best; causing monsters of mules and elephants of horses to be looked upon with a favor which their performances on the road or in the field will not warrant.

Beginning with horses, I believe that the Morgan is better than the Sampson. The latter is bigger, but he is also clumsier, less enduring, and more liable to disease. The two are like two machines built of the same material and on the same model, but differing in size. Any machinist knows the result. The larger model must be built stronger to have a proportional superiority. A machine which will work well in the model, fails when carried into practice. The Sampson fails in the same way. He has not the superabundance of muscle and sinew to compare with his extra weight. He is so slow that he travels little, if any, faster than an ox. He is, I am informed, more apt to have disease, and less apt to recover than smaller horses. He is loaded down with his own weight. "They are certainly noble-looking animals (says Randall in the American edition of Youatt) with their round, fat carcasses and their sleek coats, and the evident pride which they take in themselves: but they eat a great deal of hay and corn, and at hard and long-continued work they would be completely beaten by a team of muscular, active horses an inch and a half lower. * * * * It must be evident that bulk and fat do not always constitute strength, and that a compact, muscular horse, approaching to sixteen hands high, would acquit himself far better in such a situation."

So with mules. I think our enterprising

stock raisers, who are so emulous in producing tall mules, are doing a discredit to their own judgment and an injury to the agricultural wealth of the country. A big, loose-jointed mule, is no better than a large, awkward horse. And here I call to the stand Frank Forrester, who in his day was doubtless one of the best horsemen in America, and knew something too of mules. In his "Hints to Horsekeepers," he says (after noting the fact that, in Spain and Portugal where the finest asses and mules are bred, the latter are generally bred not over fourteen hands high,)—"The mule of increased size appears to approach somewhat nearer to the horse in organization, whereas it is desirable that he should approach nearer to the ass. He is a slower and more sluggish animal than the smaller breed, is less enduring of labor, less capable of toiling under extraordinary temperatures of heat (which is one of the admitted points of superiority in the mule over the horse), and being much heavier in proportion, is apt to sink his small, narrow compressed hoofs far deeper into the ground where the soil is deep and the roads are sticky and tenacious, while he will consume from one-fifth to one-third more provender."

I believe there is no question of the same truth as regards cattle. The Devon is vastly superior as a working animal to the Durham.—He is small enough to be active, compact and strong.

Thus far I have spoken only of working animals. I think no one can doubt that the large size and early maturity sought by breeders is gained at the expense of action, speed and long service. This will be comparatively a trifling error, or an actual gain where an animal is bred only for the shambles—while it must work a great mischief to the horse and mule, because only working qualities are wanted. It will be of small injury to cattle where beef is made the prominent point. So in sheep, where mutton is alone cared for; and in the case of the hog it becomes a great merit; for here amount of meat is the one thing desired.

But I believe it will be found that large animals are not the most profitable for grazing.—The Durham is a notoriously huge feeder, and will consume a half more than his Devon brother. This may be a small matter in the central counties of Illinois, where the distance from market makes the value of twenty bushels of corn a more or less hardly appreciable item: but in parts of the country more accessible to the grain markets, or of less exuberant fertil-

ity, the extra expense becomes considerable. The larger animal also makes a poorer quality of beef. His fat accumulates in masses, while the smaller makes a marbled or mottled flesh—"a streak of lean and a streak of fat"—of superior quality and of greater value in market.

I think medium sized sheep are better where wool and mutton are each made an object. A small sheep has more wool to its weight than a large one, and at least as good a quality of mutton.

It appears to be conceded in many quarters that a smaller variety of hogs than we have been raising in past years would be more profitable. The same is true of poultry—the Shanghaes are no longer favorites.

In general we may say with Linsley: "We believe it is a fixed and unyielding law of animal life, that in medium size we shall find the greatest activity, the best constitutions, the greatest power of endurance, and the most courage and vital energy." I would be inclined to add, also, the greatest amount of work, the most flesh, and the most wool, with a given quantity of food. As Thackeray said once, "commend me to the second rate."

FARMER FREEMAN.

[Written for the Valley Farmer.]

VETERINARY DEPARTMENT.

By Geo. H. Dadd, V.S., St. Louis, Mo.

HORSES' FEET AND THE PRINCIPLES OF SHOEING.

Various are the opinions among blacksmiths and other persons, professing a knowledge of the structure of the hoof, in regard to the best method of shoeing; but my opinion is, that the best method, or system, is that which aims to preserve the natural position or *tread* of the foot, and adapts that kind of shoe best calculated to preserve the integrity of all the component parts of the foot, and at the same time affords that protection which the sole and crust require; the *smith* bearing in mind the character of the ground over which the animal shall travel.

From such reasoning we may infer that no specific rules can ever apply to the practical part of the art of shoeing; for horses' feet must necessarily differ in conformation and function, in both states known as health and disease; hence, a peculiar form of shoe, well adapted for a given case, (say, one of concavity of the sole,) might, when applied to another (solar surface convex), prove positively injurious: and I might offer many other illustrations, in view of sustaining the above proposition.

FUNCTION OF THE FOOT.

The hoof is elastic, composed of a great num-

ber of hollow tubes, agglutinated, and held together by a mechanism peculiar to horn. The elasticity of the hoof is evident from the fact that in progression it expands in backward and downward directions; and this function must evidently have been the intention of Nature, for the hoof has a cleft, or is left almost open at the heels, between which is interposed a soft elastic substance termed the *frog*, this is bounded by the bars; the former favors elasticity. The compound expansion here alluded to, takes place when the foot, with its superincumbent weight of body, is planked fairly on the ground: and the amount of expansion is regulated—First, by the weight of the power to be sustained; second, by the amount of expansion which belongs to each individual foot. The mixed actions of contraction and expansion are favored by the laminar arrangement of parts within the hoof. The actions within, which correspond, or, rather, respond to the outward and downward elasticity of the hoof, is termed *articulation*.

The reader will perceive that I now allude to the functions of healthy feet, for it is well known that in states of disease, old age, &c., the function of elasticity of the hoof is often almost completely destroyed, yet in many cases may be restored by softening the hoof, and the proper application of the skill of the blacksmith.

HOW TO FAVOR THE ELASTICITY OF THE FOOT.

In view of favoring or promoting the elasticity and contractility of the foot, the nails should not be inserted any nearer the heels than the safety of the shoe requires; for the reader will perceive that the further back the nails are inserted the less chance is there for the exercise of the mechanical functions of the foot, and so much the worse is it for the horse—"No foot, no horse."

NUMBER OF NAILS TO BE INSERTED.

From my knowledge of the anatomy and physiology of horses' feet, I have come to the conclusion that, the less nails the better, provided, however, they are properly arranged, driven, twisted, clenched, and countersunk. Two nails on the inside and three on the outside, are all that are needed for fast horses and others having light work to perform; but, for large horses, (such as the Transfer Company of this city employs, and taking into consideration the peculiar nature of the paved landings on each side of the river,) additional nails may be needed—a matter which I propose to leave discretionary with the blacksmith.

WHAT DO WE KNOW ABOUT A HORSE'S FROG.

The frog of a colt, or horse, that has never

been shod, is full, prominent and callous; it is a solid, wedge-like substance of horn, extending from the cleft to near the point of the toe, soft and elastic within. This horny covering protects the navicular bone; and its removal, in the process of shoeing, often occasions a very painful disease known as navicular arthritis. A very distinguished surgeon asserts that when once the outer covering and bulbous enlargement of the frog is removed or sliced off, the navicular region is in danger, and the parts within the hoof, such as the navicular bone and coffin joint are liable to concussion. I believe that all persons, conversant with the facts in the case, will agree that the cushion-like substance, known as the frog, operates so as to guard against jar and concussion. It is a part of the basis of the animal structure, and therefore it should be pared with caution. Cut away the frog and we remove solar support and thus prevent the sole coming in contact with the ground. The best policy is not to remove too much of either bars or frog. We may remove the rough and loose portions of the same, or in other words, about as much as the animal without shoes would naturally wear off: and even this is not always good policy, for the ragged and uneven parts often serve as a protection to the sub-parts. I grant that the sole, frog and bars, look better when nicely pared, but health does not consist alone of good appearances.

In former times, ere the anatomy of the foot was understood, the writers and practitioners advocated the cutting away of a great portion of the frog and bars as an important feature in the art of shoeing. One author has tried to "smooth the matter over" in the following language:—"The frog offers so little resistance to the knife and presents such an uneven surface that it requires more philosophy than some blacksmiths possess to resist the temptation to slice it away, despite a knowledge that it would be far wiser to let it alone."

One of the best authorities on this subject informs us that he never allows a knife to approach the frog, because experiment has shown that the frog possesses less power of re-producing horn than some other parts of the foot: and the same person has had horses in his possession for a period of five years whose frogs were never pared.

Then the question may arise, How is the frog to disencumber itself of its superfluous surfaces? I answer, Nature has provided a means—the frog surfaces are occasionally, or periodically, sloughed or cast off, and when this does occur in

the natural way, it will be found that a new horny covering has formed—a smaller frog appears—yet it is a complete one; much better than that which is artificially produced by the drawing knife.

PRICKING AND BINDING BY NAILS IN SHOEING.

A Clinical Lecture, delivered in the New Veterinary College of Edinburgh, on 17th March, 1860. By Joseph Gamee, Senior.

GENTLEMEN.—A case having come under our treatment, the diagnosis and cure of which it is well that you should be made acquainted with, and I having been fortunate enough to obtain a pathological specimen illustrative of such cases, I cannot forego the opportunity of bringing these to your notice, that you may study the progress of the disease in its anatomical characters, as well as in its functional manifestations.

The case was one of lameness in a hind foot of a fine Belgian cart-horse, the property of Mr. Herdman, of Bell's Mills.

On the 8th of the past month the horse was brought to the Infirmary forge excessively lame in the off hind foot. He had large feet, common to that class of horses, in very bad condition. On removing the shoe from the lame foot, I had no doubt that the nails were the cause of the injury, and, in fact, it was considered so by the owner when he sent him. The shoe had been taken off the previous day at another forge, where the horse was usually shod. In searching with the drawing knife for the precise nail which had caused the injury, the state of the foot had been made much worse, because, whilst such cutting and searching could neither give relief, nor aid in the diagnosis, it so increased the weakness of the foot, the horn of which was already extremely reduced, that there was hardly space to nail a shoe to it. The opinion I formed after examination, and the one I communicated to the owner was, that the horse was suffering from several of the nails having pressed on the sensitive foot. It was not easy to define, or necessary to determine, precisely, which of the nails had produced the most injury, as nearly every one had contributed its share.

I restrained from touching the foot with the knife, with the view to further exploration. I knew that the soft parts were swollen within the hoof, and that there were two modes in which the actual state might terminate. The one by resolution and restoration, so soon as the cause and the effects of the injury were removed; the other by suppuration. However much the first might be most desirable, I considered the second to be the most probable, in consequence of the advanced stage at which the inflammation had arrived, and of the great injury which the foot had thereby sustained; nevertheless, I hoped for the best, viz., that suppuration might not take place, and I acted accordingly. As a rule, if a horse in the condition of the one just mentioned were at a stable, I should not apply the shoe until the pain had subsided; but as we know by experience, that when once the cause has been removed, the horse often leaves the forge greatly relieved, and uninterrupted restoration

follows; and as the horse in this instance had a mile to walk to his stable, with the painful foot much divested of horn, I had a shoe nicely fitted and nailed on. The pain continuing two days afterwards, viz., on the 10th, I took off the shoe and re-examined the foot. The horse evinced great pain when the slightest pressure was made to any part of the organ, more especially round the anterior region. Poultices had been applied from the commencement of the treatment, and were continued, the horse standing without a shoe. By slow degrees the pain subsided, until the 18th, when, the shoe being re-applied, the horse walked well. He returned to work sound on the 21st, the three other feet having been previously shod.

Some of the consequences of binding by nails in shoeing, with or without other complications, are disputes and law suits on the ground of breach of warranty. We have frequently prevented litigation, and conciliated buyer and seller, to the mutual satisfaction of both, by pointing out a cause of lameness, and promptly remedying it.

A case in point occurred the day before yesterday. A chestnut gelding, purchased about ten days ago of a horse-dealer, was, at the time of purchase, examined by us and found free from defect. He was newly shod; and we, not considering the shoes properly adapted to the feet, proposed to shoe him. This, however, was not done, and the horse being put to some little work became lame on the near fore foot after two or three days. He was taken to the dealer, who declared that the shoeing must be the cause, and proposed, on his own responsibility, taking the horse to the veterinary surgeon's forge, where he had been shod, for the purpose of ascertaining the cause of lameness and adopting the remedy. The shoe was taken off; the foot pared thin all over, especially at the seat of corn, and then re-applied. The previously slight lameness was increased to excruciating pain; and the day before yesterday the horse was walked to our forge very lame. Before removing the shoe, I observed that the foot was much reduced, especially on the inner half of the wall and sole. The outer heel and quarter being the highest part of the hoof, the effect was to tilt the animal's weight inwards. On taking off the shoe, I found that the three inner nails were pressing on the sensitive foot, and that pressure was considerably increased by the false bearing position in which the superincumbent weight was made to gravitate. I improved and increased the bearing surface of the foot, by some slight removal of horn at the uneven and high points. (The deficiencies could not of course be supplied). A shoe was adjusted full to the foot, put on with small nails, taking low holds; the bottom surface of the foot then stopped with hot hoof ointment and tow. The horse walked home greatly relieved, and is now free, requiring only a few days' rest to confirm the cure.*

These cases, gentlemen, illustrate how simple cases may become very important. Nothing could well be more successful than the treat-

ment pursued in the cases to which I have just directed your attention. I repeat, they are very important, and that for two reasons; firstly, because they are of very frequent occurrence; secondly, because they are often productive of the most serious consequences—many a horse is lost through much less severe injury to the foot than existed in the above-mentioned cases. In illustration of this proposition, the pathological specimen before us has opportunely come to hand. The hoof is that of an off hind foot. It has been so abused by cutting, rasping and rash nailing, that there is not sufficient space in the remaining horn to nail the shoe on. This is not the foot of a heavy horse like the one I previously referred to, but is that of a lighter-formed, active horse, and was evidently originally a strong and perfect foot. Yet such has been the violence by which, through ignorance, this poor animal was tortured, that every one of the eight nails in the shoe last applied to this hoof, was injuring the exquisitely sensitive structures within it. Here you have the unmistakeable evidence. The whole internal surface, as you perceive, including frog, sole, laminae, and coronary ring, is uniformly red, in consequence of the engorged vessels having discharged their contents into the contiguous horn. This is, I confess, an admirable illustration, and, in degree, may possibly be exceptional. I nevertheless do not entertain a doubt, that if we persevere and examine many hoofs, we shall find such cases in a variety of stages far from uncommon. I have by me another hoof, that of a fore foot, which very nearly approaches the one just described in respect of the violence sustained. The redness caused by the injury of the nails is in this case also very marked.

Leaving aside for the moment the consideration of particular cases, I feel disposed, so far as time and opportunity permit, to offer some general observations on the injury which I have selected as the subject of this lecture.

You can have no difficulty in understanding how, notwithstanding a foot be well prepared and a shoe well made and fitted, a horse may be lamed, in consequence of one or more nails being so driven as actually to wound the soft and exquisitely vascular and sensitive parts within the hoof. Such an occurrence is not necessarily a proof of negligence or lack of skill; for the most careful and expert workman is liable to an accident; neither is the extreme case we have just assumed—a real stab of the foot—necessarily the most serious; for its very severity in the majority of cases suggests the real nature of the injury, and the speedy adoption of the proper remedies—removal of the offending agent, very careful re-application of the shoe—preceded or not, according to particular circumstances, by rest and emollient or cooling applications.

It is the less obvious and oftener recurring pricks, and the still more frequent binding by nails, which is apt to escape detection, and, consequently, remedy, and which constitutes one of the most fertile sources of horse lameness. Such binding and pricking is possible independently of the manner in which the hoof

* March 20th, the horse is sound and at work.

is adjusted and the shoe adapted to it; but I cannot too forcibly impress upon you that nails do not simply operate injuriously as active offending agents, according to the manner in which they are driven; this may be the most accurate, and yet a horse may become lame through the operation of the nails in a hoof weakened by the drawing knife and rasp and by the friction caused by badly-adjusted shoes. Every man knows that if he cut his finger nails close, he does so at the expense of the nicely discriminating sense of touch; even when the hands are not employed the finger ends, so treated, feel numb, while smart pain is often experienced when the nails are cut very close, though not actually so close as to involve a solution of continuity in the soft parts. So far the circumstances of a horse whose hoofs have been unduly pared and rasped are parallel; additionally, and as a necessary consequence of the process of nailing, the horse is liable to lameness from the pressure of the sensitive foot against the nails, driven in the weak and yielding, instead of, as nature constructed it, strong and shielding horny wall.

Upon these considerations is based the rule of practice that, *it is in the adjustment of the horse's hoof and in the adaptation of the shoe to it that you are to endeavor to obviate the commonest cause of injury by nailing.*

The injury we are now studying affords good illustration of Nature's wonderful provisions for restoration to health. Only a small proportion of cases of binding by nails run on to suppuration. Some consequent soreness and want of freedom of action may be observable for a few days, but it most frequently passes off as the hoof grows and the nails recede from the sensitive foot. I possess specimens of hoofs demonstrating how the sensitive laminae are shielded from the injurious effects of nails, by the formation of horny deposits on the inner or laminated surface of the wall.

The formation of pus, as an extreme result of injury by nailing, is a pathological state of such importance, from its immediate and subsequent effects, as to deserve separate consideration; but I may here briefly mention that you will often in practice see slight suppurations, induced within the hoof by nails, terminate favorably, and with no ulterior ill effects, by the pus finding its exit at the coronet immediately under the hair. As the result of observation, I believe it to be possible, as it is certainly consistent with what we know of pathological laws, for a small amount of pus to be formed through minor injuries by nails, and to be absorbed after the removal of the cause and the employment of soothing remedies.

With reference to treatment, I beg again to warn you against too freely using the little drawing knife, technically known as the searcher, for the purpose of determining whether more than one nail have offended, and if so, in what manner and to what extent. Such searching implies cutting away of horn and weakening the foot—a result at no time desirable. Before using the instrument, ascertain whether and where there be pus beneath the hoof. In the

supposition that a free use of the drawing knife could satisfy your curiosity on all the points indicated, your treatment would not undergo modification, as the principles on which it should be based would remain the same—removal of the cause, mitigation of its effects by rest, emollients, &c. You will always do well to bear in mind, that in the treatment of disease, meddlesomeness is as little to be commended as carelessness.

Bleeding at the toe is another measure which it is my duty to caution you against. To obtain blood in any quantity from the toe (even in cases where topical bleeding is desirable), it is necessary to injure the horny sole so seriously as in my opinion to counterbalance any advantage likely to accrue from the withdrawal of blood. My decision has been arrived at after long and very varied experience, and as such I leave it for your reflection.

Thus has a simple case of a prick from a nail in shoeing led us to the consideration of important pathological phenomena and rules of treatment, affording fresh proof of the fact, that a simple occurrence deserves serious thought, in proportion as it is likely to give rise to important results. Think lightly of nothing, much less neglect nothing, because apparently at first sight simple. Yet how little do the accidents to which I have this day called your attention, how little does the entire subject of the art of shoeing horses occupy the attention of professional men and proprietors of horses, to say nothing of the general public. The press exerts little or no influence on this useful branch of knowledge. While almost all men deprecate war, and hope their country may never be engaged in it, how readily is any question taken up, and eagerly discussed, which may effect the modification of a war missile, so as to increase its destructive power; yet it is thought consistent with duty and economy to leave to the consideration of uneducated persons questions vitally affecting the efficiency of the horse, which is one of the most important agents in war, as well as one of man's best servants and companions in peace.

In stating what I believe to be the truth, far am I from desiring to impute culpable ignorance, or to affirm that all are deficient of information on the subject-matter of my teaching. Ignorance is not culpable when the opportunities for learning do not exist; and it is not reasonable to suppose that any but exceptionally endowed men can, by their own unaided powers of observation and reasoning, attain to the accumulated wisdom of more than one nation in a life-time. It is a fact that these things are better managed in France. "During the time I was in Paris," to quote from an able writer in *Once-a-Week*, March 10, (p. 239), "I never saw a lame horse even in a hack carriage." I can affirm from experience that for one French horse lame from shoeing, and especially from nailing, we have fifty and probably a hundred. Yet I believe our workmen to be most expert. Whence the difference? It mainly consists in the mode of preparing the foot and of adapting the shoe to it. The French farrier, unlike the

Englishman, works upon a principle, having acquired a knowledge of rules to guide him. Superior manual dexterity is highly important, but if the mind be not educated, the hands are as likely to be instruments of mischief as of good. Hitherto veterinary students have been invited to study the horse's foot *en amateur*. I am doing my best to introduce a truer and more practical system; and I beg you, gentlemen, to believe that the manner in which you have listened to my lectures, and the interest you have taken in my practical demonstrations, has rewarded my trouble, and will encourage me to continue in the course which I have traced for our mutual instruction, and, I hope, possibly, for the information of some who, not having the opportunity of joining us personally, may peruse the observations I address to you, after I have had leisure to render them a little less undeserving permanent record in the pages of the *Veterinary Review*.

[Written for the Valley Farmer.]

SHEEP IN THE WEST.

It is thought sheep will not thrive in the West. But why is it thought so? Have experiments been made? Very few. It is thought the country will do better with grain, and that a grain-growing and a grazing country must necessarily be unlike. This is a fatal error. Sheep require feed and care: that sums it up—that they can have equally in the West as in the East. Or is it necessary to have a laborious hill for the sheep to climb up? It so happens that sheep do not require the exercise that man does. "Perhaps the air has something to do," I once heard it remarked, "and it is more airy and healthier on the hill than in the valley." As though there was not sufficient air out-doors; for the same air is in the valley as on the hill. Of course these notions are not entertained by men of good practical sense. But there is much error, especially here in the West. Of this we must get rid. Sheep are one of the great aids to the improvement of the soil; and the West will soon learn this. It is adapted to sheep raising, as has been demonstrated. We have now in our mind's eye several fine establishments of this kind. In Illinois, in Christian and Sangamon counties, several farmers own from thirty to forty thousand sheep. They herd in flocks of a thousand to fifteen hundred head. Now these would not be kept and increased if they were a loss to the owners, who are among the most intelligent men in the State. These sheep shear from five to seven pounds of wool per head. The flocks thrive and are healthy. The prairie is fitted for sheep. Let the test be fairly instituted, and an important variety in farming operations will have been added. The

West is in its infancy; it wants the adult proportions of the East; it wants, among other things, sheep.

F.G.

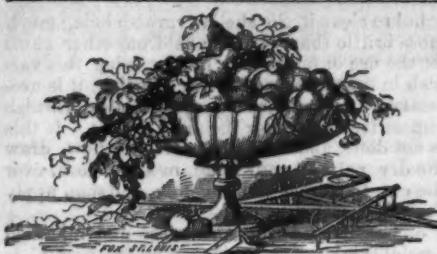
COUGH IN SHEEP.

A neighbor wishes to know how he shall cure a bad cough with which some of his sheep are troubled. We could tell him better if we knew what occasioned the cough, for we have found that these coughs in sheep are not all caused by the same thing. Sometimes the lungs are affected, and that produces a cough; sometimes the liver becomes diseased and that produces a cough; sometimes the throat is affected and that produces a cough. We have recently seen it stated by a writer in the *Country Gentleman* that some of his sheep had been troubled by worms in the windpipe.

We are inclined to think that this may be the cause very often of some of the troublesome coughs which we hear among sheep. He describes the worm to be "about the size of a cambric needle, nearly three inches in length and perfectly white. Others could be seen by close watching, working about in the phlegm, of which there were considerable, which were not more than 1-16th of an inch in length, and so small as to be scarcely discernible." If any of our friend's sheep should die, we advise him to examine that part of the body. Perhaps inhaling air impregnated with smoke of burning resin or tar, would be a relief to them.—[*Maine Farmer*.]

NOVEL CURE FOR LOCKJAW.—A gentleman of high standing, on whose veracity we can depend, relates an extraordinary instance of a valuable mare of his recovered from confirmed tetanus, by having recourse to means we never heard of being adopted before. The mare had been docked. A few days after the operation was performed, symptoms of lockjaw presented themselves. The best advice was immediately obtained, every remedy used proved unavailing, and death appeared inevitable. An idea suggested itself to the lady of the house (who is famed for the kind and skillful way in which she dispenses medicines, especially to the poor of the surrounding neighborhood,) that a sudden severe shock might produce the effect of relaxing the nerves and muscles, now strung to the highest pitch, in the poor suffering brute. A gun was loaded; the groom walked quietly to the mare's head, and discharged it close to her ear. The mare reared suddenly up, broke her halter, and fell backward; got up, shook herself, at once commenced eating, perfectly recovered, is now alive, and has bred two or three fine foals since.

Sows KILLING THEIR PIGS.—To prevent sows from destroying their young, it is said, give the mother half a pint of good rum or gin. This will intoxicate, and counteract the murderous intent. F.G.



HORTICULTURAL.

PEACH BORER AND BEE MOTH.

ED. VALLEY FARMER: If there has not already been too much written on the subject of the Peach Borer, I would like to say something through your columns:

There is no outward application I am convinced that will kill the worm, but the knife. I have tried scalding, fish brine, ashes, lime, urine and soot, without any effect. As a preventive the balls from the China tree are certain; half rotted stable manure is excellent. The earth from around the tree must be removed, all the worms picked out, the vacancy filled up with China tree balls, and the dirt drawn over them; the balls can be procured in any quantity in the Cotton States at little expense. The reason why all applications to the bark of trees have failed, is owing to the worm being imbedded in gum, that prevents hot water, &c., from reaching them, and is impervious to everything else but iron.

I once examined some peach trees in Trimble County, Ky., that had been bearing over 50 years, and were then healthy. I could only account for their longevity by supposing they were protected by a tough blue-grass sod around their trunks. Numberless remedies have been recommended to the public, but I believe there are none infallible but the China tree balls.

The Bee Moth is another bad worm to fight against, and eventually comes off conqueror. The only method I have ever known to war successfully against them, is to hive bees in a hive 12 inches square in the clear, and elevate the hive on nails or wood screws one inch, and place traps under the hive. The traps are made by taking pieces of cane 8 inches long and split them in the centre, and place them under the hive: every other morning remove the canes and kill the moth.

I knew an old man who kept 50 hives and never lost one by the moth. But he devoted a great deal of his time in watching his traps and destroying the moth. Every morning he made his round during the chrysalis period of

the worm, and felt amply rewarded for the trouble when his honey harvest commenced.

Florissant, Mo.

S.

[Written for the Valley Farmer.]

Budded vs. Native Peach Trees.

A strange phenomenon is at present apparent on peach trees in St. Louis County, namely:—that the foliage of all native peaches is being destroyed by hardly visible insects, working on the under side of the leaves, these curling up and dropping, while all the budded trees escape almost entirely, even where native and budded fruit grow upon the same tree. And last year this same wonder took place upon the writer's grounds in precisely the same manner, and consequently all the native fruit dropped and failed after a full setting, while the budded fruit bore to perfection.

Who can explain this strange fact? Why are the leaves of seedlings more palatable to insects than those of improved varieties? Do these contain more of the bitter almond essence, which is hurtful to animal life?

EMIL MALLINCKRODT.

[Written for the Valley Farmer.]

MAGNOLIA PURPUREA.

In driving out of St. Louis on the St. Charles road, on the 26th of April last, I saw in the midst of a garden in the rear of an ancient looking residence, a beautiful tree of the Purple Flowered Magnolia, in full bloom. To me it was a unique and magnificent sight. The tree is nine or ten feet in height, branching out from the ground, and having a diameter or breadth of branches of about seven feet. From the ground to the top, it was a mass of showy blossoms. The proprietor stated that it continues blossoming nearly all through the season, and I observed that among the fully developed blossoms there were numerous incipient blossom buds. When the blossoms are relieved by the full development of the green foliage, the appearance of the tree must be still more beautiful.

The *New American Encyclopedia* says: "The Purple Flowered Magnolia (*M. Purpurea*) is a native of Japan, having deciduous, obovate acute, reticulately veined, almost smooth leaves, erect flowers of 8 sepals and 6 obovate petals, purple without and white within, very ornamental. This species we have seen standing the winter well on the Hudson river, when cultivated in the garden; but in New England it is usual to treat it as a pot-plant, and give it the

protection of the green house, a mode adopted in the north of France and Germany."

It is strange that this Magnolia, having existed as long as it has in St. Louis, and being as hardy as it is in this locality, has not been more extensively propagated. Nearly all the Magnolias are superlatively beautiful among the deciduous ornamental trees, and yet I think they are comparatively rare. Most of them are easily cultivated, and others, it seems to me, should have been rendered easy of cultivation by art; for instance, the Magnolia Glauca, common in some portions of our Atlantic seaboard, a beautiful tree, having splendid white blossoms of most delicious fragrance, prefers a rather wet soil and will scarcely bear transplanting to a dry one. Why can it not be grafted upon the Magnolia Acuminata, which prefers a dry soil, and thus be rendered susceptible of general cultivation?

L. D. MORSE.

TRIMMING THE GRAPE.

USE OF SHELLAC VARNISH FOR VEGETABLE WOUNDS.

1. *The Time.* a—This necessarily is done mostly in autumn as a necessary preparation to laying down the wood. But I prefer at that time to leave more numerous and longer branches than I intend to have grow the next spring. This is done to guard against accidents and the unusual pressure of severe winters, especially when they follow a summer of imperfect growth, such as that of 1859 and 1860. b—in the spring after the wound is laid open to the sun, an experienced eye, especially with the aid of the knife, will readily ascertain the condition of the wood and buds, and guide in the additional thinning and shortening of the wood. c—in the use of shellac varnish one may trim just before the buds open, and indeed later, provided it be done in a cool morning, with rapid movement. Shellac gum being soluble in alcohol, but not in water, the varnish dries almost instantly when applied to the cut surface of the grape or other fruit tree. The close adhesion of the varnish, filling the very pores of the wood, and its subsequent insolubility causes a perfect closure of the pores of the wood.

2. *Mode of Making Shellac Varnish.* a—Take a broad-mouthed vial from the size of two or three ounces to a pint. Fill it two-thirds full with strong alcohol, and put in shellac gum until, after solution, it is like very thick paint; cork it tightly to prevent the evaporation of the alcohol, putting in more of the latter whenever it becomes too thick to spread freely. b—it may be readily applied with the end of the finger or a small stick. It is best, however, to use a small painter's brush, one whose brush is as broad as a large thimble. c—On ceasing to use this brush, wipe it as clean as you can conveniently, and then let it dry without keeping it in the bottle. When you wish to use it again you have but to pound it gently when it will soften readily without the necessity of using al-

cohol to clean it, the shellac varnish being much more brittle than that made from other gums for the use of furniture. d—On using this varnish in cases where you fear bleeding, it is necessary to act with speed, applying the varnish almost instantly after the limb is cut. If this is not done, and the sap begins to flow, draw the dry palm of your hand, in a dry cloth, over the cut, to remove the moisture, and then apply the varnish.

3. Considering the cheapness and manifold uses of this varnish, every householder who has even a few shrubs and fruit trees to trim, should keep it ready prepared, as with the aid of it he may trim almost every tree at any season during the summer. These facts are familiar to most cultivators of grapes, and they are repeated here for the benefit of the inexperienced.—[Co. Gent.]

HOW TO SHIP SMALL FRUITS.

As the season for shipping berries is at hand, we present the following plan from the *Prairie Farmer*, which is the best with which we are acquainted: The method of packing berries varies in almost all the large market cities. In Boston, a very large proportion of those retailed are sent to market in round wooden boxes, holding one quart, and branded with the owner's name if he desires to retain them—these are packed in crates to send to market. In New York, a large quantity is sold in small baskets, holding perhaps a pint. In our own city, the method of marketing has been various—those brought from Cincinnati, Cleveland, etc., have usually come in shallow boxes or trays, packed in crates of four or five, an air space being left between each two trays or boxes. By talking with some of our best fruit dealers here, we have become convinced that these trays or boxes are the best to send to this market. The dimensions of the trays should be as follows for bushels: 34 inches long, 23 inches wide, and 2½ inches deep—for half bushels, 26 inches long, 16 inches wide, and 2½ inches deep. The ends should be made of one inch stuff, and should be $\frac{1}{4}$ of an inch wider than the sides of the box, so as to allow a space for air when placed one above the other; these ends should also project by the sides, to keep them from sliding endwise when packed in the crate. The sides, near the end, should be the full width of the end, and chamfered down to the proper width—the sides and bottoms can be made of $\frac{1}{2}$ or $\frac{3}{4}$ stuff. The crate should be made of a strong frame at the bottom, the size of the draw less the thickness of the ends from the corners, posts are inserted or hinged to the frame; when these stand upright, the boxes just fit inside

them, leaving the projecting ends to set by the post to prevent sliding. These posts should be high enough to receive four of the bushel boxes or five of the half bushel boxes; to the top of two of these pos's, a cross bar should be hinged and brought over and made fast to the top of the other post by a snap, lock or any contrivance desirable, when all is ready to send to market. In the bottom of some crates springs have been inserted to take off the hard jar, but it is not thought desirable as a general rule.

THE BORER—QUERIES?

ED. VALLEY FARMER: I was at the orchard of a friend a few days since, where several hundred apple trees had been set out a year ago, and found, on examination, that nearly every tree had a borer in the root. I was astonished to find that trees so young should be affected. I was alarmed for fear my own trees, set at the same time, might be also troubled with the pest; but on examination of a great many, consisting of apple, pear, peach, plum, apricot, and quince, I could not find one borer.

Why is it? Was the absence of the borer in my trees in consequence of the free use of soap and water on them—or is it an uncommon thing to find the borer in trees so young in this State. Also: what is the best preventive of the borer used among horticulturists here.

Yours truly, B. SMITH.

PAINT FOR MARKING LABELS.

1. In the business of the garden and orchard marked stakes and labels are often needed for temporary purposes, as the designation of rows of fruit trees, new varieties of corn and potatoes, flowers, &c., or rows of seed sown in hot beds.

2. The staves of an old barrel sawed in two and sharpened at one end answer for larger purposes, and short pieces of hemlock lath, planed smooth on one side, for smaller ones. Those who happen to have blocks of cedar cut off from long posts, or even the sound portion of cedar posts that have failed, will find them especially useful wood for splitting up for either large or small marks and stakes.

3. For paint to mark such stakes and labels I have found nothing so cheap and ready as shellac varnish, into which a little lampblack had been well worked. Whether used in making letters or figures it should be applied with a small brush. It is better applied to the naked wood than to a painted surface, to which, especially if the paint be fresh and glossy, it does not adhere well.

Such paint will continue legible until the stakes decay.

Its superiority to oil paint is seen in two facts—it dries rapidly, and it does not spread on the wood when first applied; as does oil paint on many surfaces, and become illegible.

So also this same mixture is superior for the same reason for marking barrels, boxes and bales of goods.—[Co. Gent.]

[Reported for the Valley Farmer.]

Meramec Horticultural Society.

ALLENTON, 1st May, 1862.

The forty-first monthly meeting was held. President Morse in the chair.

The reading of the minutes of the former meeting was dispensed with.

The table was liberally supplied with fruits and flowers, and two varieties of Wine and one of Cider were presented by Dr. T. Stevens, of Saint Louis.

The meeting was resolved into a committee to test the Cider and Wine. The Cider was found pure, of rich color, delicate flavor, rich and without the slightest hardness, and was mistaken for wine by a good wine maker. Dr. S. kindly stated his mode of management: the apples were mostly Newtown Pippins, a few Jenetons being used; were in good condition, selected fruit, made in November, and put at once into a cellar 14 feet deep, having a uniform temperature, where it remained, without the bung being in the barrel, for two to three months, and filling up always as it fermented over; at the end of this time, it will cease to ferment; it is then drawn off into a perfectly clean and sweet barrel, bunged up tight, where it will work again; it then remains another three months, or till the beginning of May, when it can be bottled off, and by remaining for a few weeks will become like sparkling wine. It was pronounced a most excellent article, equal to any cider tasted by the members present.

The samples of Wine were made from the common Black Raspberry, and from the Lawton Blackberry, and were each made of 1 gallon juice, 2 gallons water, and 7 lbs. brown sugar. They were both excellent samples.

In answer to a question, Dr. Stevens stated that the Cider was the better the more it was racked, and that all that was needed was good fruit, cleanliness, and an even temperature.

A motion was then adopted to appoint a committee to test the flavor and condition of the apples on the table on the first day of May, as affording a key to their value as keepers. The President appointed Wm. Muir, N. J. Colman and F. Braches, said committee.

It was on motion, RESOLVED, That this Society shall hold their annual festival upon the same principles as last year, the details to be reserved for future arrangement.

The Committee on Fruit reports: Mr. Allen again shows us Newtown Pippin, Priestly, Willow Twig, and Jeneton, all in fine condition. The Pippin and Jeneton **VERY FINE**. Mr. George M. Moore exhibits specimens of Pryor's Red, large, high colored, LOOKING in remarkably fine condition, but on tasting much past their prime. Mr. Davis has Kaighn's Spitzenberg, Gilpin and Lady Apple. Dr. McPherson shows Jenetons, large and fine, also a medium sized yellow apple of very good quality, evidently a good keeper, firm, crisp, and having no sign of decay whatever; will evidently keep as long as it will be wanted. A similar, if not identical, apple, has been found at the Iron Mountain in this State under the name of the **CANIS** apple, from the original apple having been found growing by a cabin; which name may be adopted for the present. A. W. McPHERSON, Ch.

The Flower Committee report finding four bouquets on the table, their merit being indicated in the following order: No. 1, Mrs. Seymour; No. 2, Miss Betty Beale; No. 3, Miss Ann Muir; No. 4, Miss Mamie McPherson. W. MUIR, Ch.

The Executive Committee presented two subjects for discussion at next meeting, upon which it was on motion, RESOLVED, That "Bee Culture, with the Fruits, Flowers, and Vegetables on the Table," be the subject. Adopted.

The Committee appointed to test the Fruit, reported having tested the nine varieties on the table, and pronounce that for condition and flavor they find the three best to be: No. 1, Newtown Pippin; No. 2,

Kaighn's Spitsenberg; No. 3, Jeneton. A doubt was in the minds of some members of the Committee as to the identity of Kaighn's Spitsenberg.

W. Muir, Ch.

The President exhibited a bunch of Radish grown according to the Resolution of March meeting. Sown on the 12th of March, and gave fine roots and small tops.

Meeting adjourned for dinner.

The subject up for discussion being "The Proper Management of the Young Orchard," the President suggested that the following order be observed: 1st, Apples; 2d, Peaches; 3d, Pears, &c.

The President, by request, remarked, that it was an interesting and important fact that only about one-half of all the trees planted lived to become good bearing trees. To find the cause of this state of things is of importance to the planter. And first, he must get good trees, in good condition, and plant them well. Although planting is not the subject, it is so intimately connected with it that it must be noticed. Many eminent planters adopt the close planting system for apple trees—say from 16 to 20 feet apart each way; cultivated with some small crop, as some of the low growing varieties of corn or beans for the first six or eight years. Late potatoes are not so good, as by stirring the soil so late in the season in taking up the crop a late growth of immatured wood is produced; and I think the trees are more liable to "bark burst" from sudden hard freezing. When the trees become too crowded, cut out every second tree, and perhaps the peach might then be planted for a few years in the large spaces. Most cultivators plow too deep, and run too close to the tree. They should not work with the plow closer than two feet the first year after planting, and three or four feet the second, and then work the space near the tree with the fork or Canterbury Hoe—a valuable three-pronged hoe. By working so close with the plow or spade the roots are cut, and this acts like root pruning. Most planters adopt shallow planting as best, and this must be noticed in the after cultivation in order to preserve the surface roots. Another important thing is to guard against the borer. Apple trees should be examined twice a year. Among trees planted last year I found borers—the true Sapanders. I washed the trees with a solution of soap in May, and still found young borers in the fall. I think the best plan is, to remove the earth from the collar of the tree down to the roots, scrape the rough bark off smoothly, and then rub with common bar soap, and afterwards the hand, so as to make a thin coating of soap from the roots to a foot or more above the ground. This prevents the perfect insect depositing her egg. Then, in October or November, examine again to see if there are any borers at work. It is much better to examine for these insects at the cost of some time, as so many of the trees are killed by them, costing money and time and causing disappointment and discouragement.

Mr. F. Braches—I don't quite agree with the President in regard to using the plow in the orchard. Hand labor is too costly to work much with the fork or hoe. To have the soil frequently stirred will keep down insects of all kinds; but to do this with the plow you must plant the tree at least 8 inches deep from the top of the roots. If the soil is not stirred, other insects besides the borer affect the tree—the caterpillar or canker-worm for instance, and the leaves fall and the tree is lost, and the blight or something else is blamed. As to planting 16 or 18 feet apart, I agree. Trees to be able to bear fine fruit must be shortened in and encouraged, and you can thus obtain 5 bushels of fine perfect fruit from every rod of ground; but, to get this, the trees must be attended to. It is not enough to plant 500 trees, and think that all the work is done. You cannot plant lettuce and have fine plants without attention. So with trees—cultivate well—head in so as to produce fine juices, which forms fine fruit. As to low and high heads I see but little difference to the tree, but some in the cultivation. I

like low heads when I am gathering, and high heads when I am plowing. I have said 5 bushels, but I have had 10 and 15 bushels per tree. I don't like having peach and apples in the same orchard. Keep each fruit by itself. There is much danger to the peaches in going into the orchard with a team to gather the early apples.

Dr. Beale—I have planted my apple trees 32 feet and peach trees between the trees and rows. I think this is a good plan so far.

Dr. McPherson—I think that we have here involved the question of deep and shallow planting. I have trees—four year olds—planted five years ago, that were planted very deep, the holes were made 2 feet deep and 4 feet across; they were planted from 8 inches to a foot deeper than when in the nursery, they all stand erect and as stiff as a post, and I know of no trees in the county that do better; and I can plow close up to the tree, and I don't think the plow has struck a root. I don't know that they have borne so early as others. Trees I planted last spring, I planted 30 feet each way, and have a large stock of young trees on hand; and I think that if they do as well 15 feet apart the ground will take three times as much, and I had better fill it up.

Mr. Braches—I have had some experience in deep planting trees that had to be heeled in and were hurt by the rabbits and the frost. So I had to plant them deeply to put the scars under the ground—at the scars they formed roots like cuttings. I find in the apple, when the roots come in contact with the clay, the roots are more healthy.

N. J. Colman—There are some matters that have a greater effect upon the success of young orchards than those alluded to. If you plant out trees in poorly prepared soil, taken from the close rows of the nursery, they will be poor, puny trees, needing washing and pruning and doctoring. But prepare the soil by plowing deep; get good, healthy trees; plant early in the season; shorten in the tops to balance the great reduction the roots have sustained in removal, and they will need but little washing and scraping. It is with trees as with animals—the poorly fed and sickly are liable to be affected by disease—and trees that have lost their constitutional vigor are subject to the borer and other insects. The trees, in taking up, have lost from a half to three-fourths of their roots. To balance this loss, we must shorten in the heads to produce a proper equilibrium. Then make low heads to protect the body—nature leaves the side branches for this purpose. This question of depth of planting is a grave one. Mr. Braches' views are supported by Dr. Hull, of Alton, an eminent horticulturist; he plants the collar 5 to 6 inches below the surface. All his trees are planted deep, but especially the peach; he says the borer does but little injury if it does not get into the roots. I am opposed to this practice, because it does not accord with nature, which has drawn a line between the root and stem at the point at which it comes in contact with the earth. Deep planted trees have a tendency to throw out water shoots. If I wanted to keep the tree from the borer, I would wrap the body next to the earth or mound up to the tree, to keep the insect from depositing its eggs. The instance cited of the rabbits gnawing the trees and throwing out roots, shows nature's efforts to repair injuries, and surface roots were here produced.

In regard to planting peaches in an orchard of apples, where the trees had been cut down, the shade of the large trees would not permit the peaches to ripen perfectly—and they would be poor, colorless, tasteless, unsaleable fruit. I agree with Mr. Braches in planting apple and peach orchards separately. Apple trees don't succeed well along with peaches, either from matter they exude from the roots or from some other cause. I think it advisable to plant 16 feet apart, and when the trees get large, cut out every alternate tree. Different varieties of the apple have different forms of growth, and the distance should be regulated to the form.

Messrs. Allen, Redfield, and others took part in the discussion.

The President announced the next meeting to be held at Mr. J. S. Seymour's, at Eureka, on the first Thursday of June, at 10 A. M.

On motion, the meeting adjourned.

WILLIAM MUIR, Sec.

[Written for the Valley Farmer.]

Freezing of Peach and other Fruit Buds.

The least danger to fruit buds from cold is when they are in the lowest dormant state, about mid-winter. The danger increases backward and forward from said point of dormancy. It is not intense dry cold at the time of the dormant state that is to be feared. It is the entering of moisture into the fruit buds during the moving sap period, in autumn and spring, combined with but a small degree of cold, which injures them. The higher and drier the ground, and the higher the tree branches from it, the safer the buds, showing conclusively that cold moisture kills—not dry cold.

Why is fruit measureably exempt from destruction near large rivers and lakes? Because water on a long run swallows a great deal of heat and retains it in a latent state, thereby acquiring a surplus, and giving it off by degrees.

Why is fruit destroyed on small streams of short run, and on spring branches? Because such waters, issuing from cold springs, being colder than the air, swallow all the surplus warmth of it, thereby causing low temperature and frost around.

Heat generates nearest the ground during the sunshine, but rises to the higher stratas of the air on account of being lighter than the colder stratas next to the humid earth after sundown—this being another cause of protection for fruits and plants on high grounds.

EMIL MALLINCKRODT.

To KEEP BUGS FROM MELON VINES, ETC.—A GOOD PLAN.—G. Roys, Hartford Co., Conn. says the cheapest and most effectual remedy for the striped bug is to cover the plants with cotton thus: Take the common cotton batting, separate it into very thin layers, and spread over the plants as soon as they appear, putting a little dirt on each corner to prevent the wind from blowing it off. He has tried it for several years with entire success. The plants may attain considerable size before removing the cotton, which stretches as they grow. If thinly spread, the cotton does not interfere with light and moisture, while it entangles the insect.

GRAPEVINES.—Some grapevines have the reputation of being barren: they will blossom, but not bear. Apply ashes and phosphates, and clusters will follow blossoms. In some soils these applications are to be modified. Ashes alone will sometimes bring fruit. F. G.

Management of the Blackberry.

At the late meeting of the Illinois Hort. Society, C. Merritt, of Battle Creek, Mich., said he had been very successful with the New Rochelle—had an acre of the plants, but they needed winter protection. This he accomplished by first cutting out the bearing shoots, when with the help of two men with spades he laid down the whole in a day. The earth is loosened with a rake on the side towards which they are to be laid down, when they are pushed over with the rake, and the two men throw on earth, and a little rough litter is added. They are planted six feet apart, and cultivated each way. They are staked in spring. "Before laying down in autumn," says the owner, "I cut off the main stalk nearly down to where it bends over, and the side branches to fifteen or eighteen inches. When there is no snow, I would cover the stalk. Last spring when I got ready to plow, I found I had only about half enough canes on the acre. I manured in June with a wheel-barrow load to every two hills. They were a "sight" when they blossomed. The crop was estimated at from 100 to 150 bushels, and I am confident was not less than 100. I picked 60 bushels, and sent them to this market; brought \$4.50 to \$5 per bushel. Four stalks in a hill are enough. I sell the sprouts or cut them down. I think from 120 to 150 bushels can be raised on an acre. Some of the ground I mulched with cut cornstalks, which was an improvement. My soil is a gravelly sand with loam, sub-soil gravelly and open, but not leachy. The berries were uniform in size, except in the last of the season."

Novices should understand that summer pruning is in most instances essential to success, that is, pinching off the leading stem when 3½ or 4 feet high, to induce the growth of side branches, which also must be pinched off, if they extend far—the object being to produce that short stubby growth which best favors fruitfulness. Boys who pick wild blackberries at the East, have often observed that such bushes as the cows have browsed partly down are loaded with berries, and this summer pruning is on the same principle, although in not quite so rough a style.—[Co. Gent.

WASH FOR FRUIT TREES.—Solomon Robinson, Worcester Co., Mass., uses the following wash on his fruit trees with good effect. Put a pailful of water in a tub, and stir in 3 quarts fresh cow manure, 1 quart soft soap, 2 quarts distilled wood ashes, and add urine enough to make the mixture of the consistence of whitewash. Apply this to the trunks and limbs of the trees early in June, with an old broom. The manure and ashes form a coating which each rain gradually removes, leaving a clean glossy bark, and also carrying fertility into the soil.

AN ORNAMENT.—Here is something new as well as nice: Take large pine burs, sprinkle grass seed in them, and soak them a day or two in water, when the scales will close down. Take out, and in a few days fine spears of grass will appear.

Transplanting in the Night.

A friend in whose powers of observation we have confidence, and who is an exact experimenter, informs us that last spring and summer he made the following experiments: He transplanted ten cherry trees while in blossom, commencing at four o'clock in the afternoon, and transplanting one each hour, until one in the morning. Those transplanted during daylight shed their blossoms, producing little or no fruit, while those planted during the darker portions maintained their condition fully. He did the same with ten dwarf pear trees after the fruit was one-third grown. Those transplanted during the day shed their fruit; those transplanted during the night perfected their crop and showed no injury from having been removed. With each of those trees he removed some earth with the roots.

We are well aware that when plants are accidentally frozen in green-houses it is customary to render the house dark before applying cold water to thaw them; and that when this is not observed they are injured, while if entire darkness be secured during the operation, many of them are saved. But the experiment of our friend seems to have but little analogy to this fact and is entirely new to us.

We shall be glad to receive information on this subject from our readers, and hope that numerous kindred experiments will be made during the coming season.—[*Working Farmer*.]

Scrubbing and Washing Trees.

The *Germantown Telegraph* thinks early winter the best time for scraping and washing the trunks of trees.

It is well known to all observing fruit growers that the loose bark of trees is the winter quarters of myriads of insects, where they securely remain until the ensuing spring, when the warm, genial weather warrants them to quit their cosy homes and begin their destructive operations for the season. We have found a narrow saw, rather fine toothed, to be an excellent tool in rasping off the superfluous bark. It accomplishes it more uniformly than a hoe, trowel, or other scraper; a trowel or a short handed hoe, however, is very good, when the other may not be possessed. After the bark is removed, the trunks should be washed thoroughly with a preparation of whale oil soap and water, say in the proportion of a pound of the soap to four gallons of water. It can be applied to large trees with a hickory broom or a stiff whitewash brush, and to small trees, especially dwarfs, with the hand scrub-brush. Sickly trees, which can at this season be easily detected by being covered with a species of fungi, or perhaps, more properly, a peculiar insectivorous deposit, should be scrubbed so as to completely remove this. The mixture will of itself benefit the tree; while the removal from the stem of all extraneous and injurious substances, will give new health and vigor the ensuing season, in some instances to a surprising extent. When whale-oil soap is not obtainable, ley may be used, but it should not be very strong.

GRAFTING GRAPE VINES.—A correspondent of the *New Hampshire Journal of Agriculture* gives a very simple mode of grafting grape-vines. He says:

The vines should be from three-fourths of an inch to an inch through. Cut them close to the ground when the leaves are the size of a cent. Split the stock and set the scions as you would apple scions, excepting that the scarf should be longer and the scion larger. This is necessary on account of the pithy nature of the scion. Cover the stalk three or four inches deep with soft earth, without wax, or anything else, unless the stock is too small to hold the scion, and then it may be fastened with a string. Keep all the sprouts picked closely the first season. The scions should be cut in the fall, having three good buds on them. Care should be taken that they keep moist. I treated some barren vines in this way, that I had in my field, and the scions grew some ten feet the first season. One bore a bunch of grapes. In sixteen months they bore three or four quarts of good grapes.

GRAFTING WAX.—If many stocks are to be grafted, take 27 ounces of common yellow rosin, melt it gradually so as not to drive off the turpentine. When reduced to the consistence of a sirup, add 10 ounces alcohol, shake them thoroughly together, and pour the mixture at once into a well-stopped bottle. When the graft is inserted and tied in its place with a strand of matting in the usual way, cover the surface of the whole with this varnish with a small painter's brush. Such varnish may be used in any weather, and is neither affected by heat, cold, or wet.—[*Gardener's Monthly*.]

SASSAFRAS BARK A REMEDY FOR WORMS IN DRIED FRUIT.—Dried apples, peaches and other fruits are usually infected with worms, if kept for a long time. S. S. R. sends the *Agriculturist* his plan of keeping them. "Put in common muslin bags with a little sassafras bark scattered through (a handful of bark to a bushel of fruit), and no worms will trouble them as I have proved by keeping dried apples two years in a pantry."

RENEWING AND PRESERVING PEACH TREES.—J. C. Thompson, of Staten Island, recommends cutting peach trees off two feet from the ground, and covering the ends of the stumps, or large limbs, with cement. A healthy tree makes a great growth of young wood, easily controlled by summer pruning, and ready to bear the next year, not liable to break by the winds, and easily supported if heavily loaded with fruit, which is also within easy reach. Mr. T. has also applied, for several years, a handful of flour of sulphur about the base of peach trees. The base of the trunk being laid bare, and the worms removed, the sulphur is placed about it, and the earth returned. This is done once in two years.



[Written for the Valley Farmer.]

ABOUT CELLARS.

We had it in mind, when we sat down to write this article, to head it Neglected Cellars—for that would more properly express the condition of cellars in general. The one great reason is: it is expected no one will intrude here, and see (what is too true) the real habits of the housewife. A cellar never lies; a parlor will; a kitchen may; but a cellar, never.

But, neatness out of the question, the sober truth is, cellars are breeders of pestilence. See what noxious vapors are there kept under lock and key. They are harbored and breathed daily. It is hard to avoid a damp cellar; but dampness alone is not so injurious. It is the effluvia that arises from decayed vegetable matter—not only the stench, but the poison. Everything is dragged into the cellar. All kinds of roots; whatever grows in the garden, finds harbor here; and here it remains to take care of itself. If the cellar is secure against frost, that is enough. How many rotten potatoes, turnips, cabbages, and so many other things, do we find each spring in cellars. The truth is, most of these things can be better kept out of cellars.

A cellar should be white-washed now and then, and cleaned frequently—the fruit looked over—the rotten removed—and, above all things, there should be ventilation: this is the great neglect with cellars. Fresh air is not only necessary to those who enter them, but retards the decay of fruits, roots, &c., stored in them. In winter, fresh air is as necessary as in summer. Keep your cellar tight and well-secured against the frost. But let also a little cold air in; it matters not where the opening is, whether at the bottom of your door or at the top, or in the wall—only let it be outside. The air (being colder than that in the cellar and consequently heavier) will drop down, and displace the same amount of warm air. As the cellar has a capacity for warming, the cold air will soon be properly tempered. A small orifice will be sufficient. This for winter.

In summer, with proper care, a cellar may be kept comparatively cool. The care is this: apply the winter rules to it. The heavy air, which is the cold air, is at the bottom. Warm air slowly dropping in, as it only can at the top, never sinks to the bottom, but stays elevated. When you enter the cellar, you breathe this air. The moment you tap your cellar at the bottom (in summer) that moment you let the air out. Consequently, outside doors should not be used as places of ingress and egress. To throw the windows open and the doors, as is done, is to ventilate your cellar with warm air. As well dispense with a cellar. For a cellar is made to keep cool. This necessarily makes a cellar less healthy in summer than in winter. But it can't be avoided. This, however, is not serious. People don't live in cellars. They are made to go in only occasionally, and out at once.

Keep all bottom avenues shut.

F. G.

LOVE.

Love is an inheritance with the German. Not a mere passion—a plaything—as with the French; but a sober reality, that enters largely into the affairs of life. There is, therefore, no better judge of the article than the true German, one of whom (Frederick Halm) thus describes it:

Tell me, my heart, what love is?
It giveth but to rob;
Two souls and one idea,
Two hearts but one thro'b.

And when is love the purest?
When its own self it shuns.
And when is love the deepest?
When it the stillest runs.

And when is love the richest?
It hoardeth when it gives.
And tell me how love speaketh?
It speaketh not—it lives.

HOW GREEN TOMATOES ARE AS GOOD AS RIPE ONES.—The very best pickle ever made may be had by the following recipe. The tomato *cooked* and combined in this way is altogether a different affair from the old fashioned tomato pickle, made by putting the green tomato in vinegar, *a-la-cucumber*, and which was never fit to be eaten. The pickle described below, however, is a condiment fit for a king; and no man who ever gets a taste of it, rightly made, will ever have any green tomatoes to spare. We have used this pickle in our family for two years past, and recommend it confidently. Take one peck green tomatoes (not peeled); a dozen and a half small sized onions, and slice both onions and tomatoes; add $\frac{1}{2}$ pint white mustard seed, $\frac{1}{2}$ oz. allspice, $\frac{1}{2}$ oz. cloves; half a dozen whole peppers (ripe) or a tablespoonful of cayenne; salt enough to season. Cover the whole with vinegar, and boil two hours.—[*Bangor Whig*.]

RALPH WALDO EMERSON.

Ralph Waldo Emerson is the great "original," the *litterateur* of his country. He was the first that called forth acknowledgement from the British critics of originality in this country. This acknowledgement could not be avoided—the unmistakable merit forced it. Mr. Emerson stands alone in his sphere. No man ever occupied it before: he created it. At first he was incomprehensible, as is the case with all truly original minds. But an acquaintance with his thought, which the progress of the age developed, makes his purpose clear; and we find, to our surprise and satisfaction, a store-house of thought that is wholly unrivaled. Such is Ralph Waldo Emerson in prose. In verse he has attempted the same thing, but succeeded only now and then. Prose is his natural medium; but he does such things as this in verse:

EACH AND ALL.

Little thinks in the field yon red-cloaked clown
Of thee from the hill tops looking down;
And the heifer that lows in the upland farm,
Far heard, lows not thine ear to charm;
The sexton tolling his bell at noon
Dreams not that great Napoleon
Stops his horse, and lists with delight,
While his files sweep round yon Alpine height;
Nor knowest thou what argument
Thy life to thy neighbor's creed hath lent:
All are needed by each one—
Nothing is fair or good alone.

I thought the sparrow's note from heaven,
Singing at dawn on the alder bough.
I brought him home in his nest at even:
He sings the song, but it pleases not now,
For I did not bring home the river and sky—
He sung to my ear: these sang to my eye.
The delicate shells lay on the shore,
The bubbles of the latest wave
Fresh pearls to their enamel gave,
And the bellowing of the savage sea
Greeted their safe escape to me.
I wiped away the weeds and foam,
I fetched my sea-born treasures home,
But the poor, unsightly, noisome things
Had left their beauty on the shore
With the sun and the sand and the wild uproar—
Nor rose, nor stream, nor bird is fair—
Their concord is beyond compare.

The lover watched his graceful maid
As 'mid the virgin train she strayed,
Nor knew her beauty's best attire
Was woven still by that snow-white quire.
At last she came to his hermitage,
Like the bird from the woodland to the cage:
The gay enchantment was undone—
A gentle wife, but fairy none.

Then, I said, "I doth truth:
Beauty is unripe childhood's cheat—
I leave it behind with the games of youth."
As I spoke, beneath my feet
The ground-pine curled its pretty wreath
Running over the hair-cap burs;
I inhaled the violet's breath;
Around me stood the oaks and firs;
Pine-cones and acorns lay on the ground;
Over me soared the eternal sky
Full of light and of Deity;
Again I saw, again I heard
The rolling river, the morning bird:
Beauty through my senses stole—
I yielded myself to the perfect WHOLE.

Here is philosophy as well as poetry—a lesson impressed. It is the best analysis of the impression of things upon the mind that we have ever seen, going at once to the root of emotion. Mr. Emerson is cool and clear like an iceberg. He reports what he sees in an unimpassioned way.

In the following, however, he exhibits all the warmth of an exuberant fancy. We extract from "The Humble Bee."

Inset lover of the sun,
Joy of thy dominion!
Sailor of the atmosphere,
Swimmer through the waves of air,
Voyager of light and noon,
Epicurean of June!
Wait, I prithee, till I come
Within earshot of thy hum—
All without is martyrdom.

When the south wind, in May days,
With a net of shining haze
Silvers the horizon wall;
And, with softness touching all,
Tints the human countenance
With a color of romance;
And infusing subtle heats
Turns the sod to violets—
Thou in sunny solitudes,
Rover of the underwoods,
The green silence dost displace
With thy mellow breezy bass.

Hot midsummer's petted crane,
Sweet to me thy drowsy tune,
Telling of countless sunny hours,
Long days, and solid bank of flowers;
Of gulfs of sweetness without bound,
In Indian wildernesses found;
Of Syrian peace, immortal leisure,
Firmest cheer and bird-like pleasure.

Aught unsavory or unclean
Hath my insect never seen,
But violets and bilberry bells,
Maple sap and daffodils,
Clover, catchfly, adder's tongue,
And briar-roses dwelt among:
All beside was unknown waste,
All was picture as he passed.

No insect has ever received equal honors—not even Anacreon's grasshopper. It is all music, and fragrance, and picture. We have not given the whole of the poem; the rest is of a similar quality.

F.G.

What maintains one vice will bring up two children.

When prosperity was well mounted, she let go the bridle and tumbled off the saddle.

A change of fortune hurts a wise man no more than a change of the moon.

He that has a trade has an office of profit and honor.

A false friend and a shadow attend only while the sun shines.

If you would not be forgotten as soon as you are dead and rotten, write something worth reading.

Scarlet, like silver and velvet, have put out the kitchen fire.

Clippings from Various Authors.

This comes from the cool, witty Saxe—he has wrought nothing better (we get it through *Harper*) :

THE WAY OF THE WORLD.**I.**

A youth would marry a maiden,
For fair and fond was she;
But she was rich, and he was poor,
And so it might not be.
A lady never could wear—
Her mother held it firm—
A gown that came of an India plant,
And not of an India worm;
And so the cruel word was spoken,
And so it was two hearts were broken.

II.

A youth would marry a maiden,
For fair and fond was she;
But he was high, and she was low,
And so it might not be.
A man who had worn a spur
In ancient battle won,
Had sent it down, with great renown,
To goad his future son!
And so the cruel word was spoken,
And so it was two hearts were broken.

III.

A youth would marry a maiden,
For fair and fond was she;
But their sires disputed about the Mass,
And so it might not be.
A couple of wicked kings,
Three hundred years ago,
Had played at a royal game of chess,
And the Church had been a pawn!
And so the cruel word was spoken,
And so it was two hearts were broken.

The foregoing has point. And now for a few paragraphs from the Pointer-in-Chief:

When some women come to be *dragged*, it is a marvel what will be found in the depths of them. A green-eyed Naiad never rests till she has inveigled a fellow under the water; she warbles and whispers dainty secrets at his cheek, she kisses his feet: all her beds sigh out, "Come, sweet youth! Hither, hither, rosy Hylas!" Pop goes Hylas. (Surely the fable is renewed forever and ever). Doth his captivator take any account of him? No more than a fisherman landing at Brighton does of one out of a hundred thousand herrings.

The last time Ulysses rowed by the Sirens' Bank, he and his men did not care though a whole shoal of them were singing and combing their longest locks. Young Telemachus was for jumping overboard: but the tough old crew held the silly, bawling lad. They were deaf, and could not hear his bawling nor the sea-nymph's singing. They were dim of sight, and did not see how lovely the witches were.

When a lad pulls a bunch of faded vegetables from his breast and fails to kissing it, what is the use of saying much more? As well tell the gardener's name on it—the waterings, clippings, manurings, the plant has undergone—as tell how Harry Warrington came by it. And how came Maria to give it to Harry? And how did he come to want it and prize it so passionately? Is not one story as stale as the other? Are they not all alike? Harry values that rose because

Maria ogled him in the old way; because she has happened to meet him in the garden in the old way; because he has taken her hand in the old way.—[Relentless Thackeray.]

Maidens will fall in love. Their little hearts are constantly throbbing at the windows of expectancy on the look out for the champion. They are always hearing his horn. They are forever on the tower looking out for the hero. Sister Ann, Sister Ann, do you see him? Surely 'tis a knight with curling mustaches, a flashing cimeter, and a suit of silver armor. Oh, no! it is only a costermonger with his donkey and a pannier of cabbage? Sister Ann, Sister Ann, what is that cloud of dust? What is that cloud of dust? Oh, it is only a farmer's man driving a flock of pigs from market. Sister Ann, Sister Ann, who is that splendid warrior advancing in scarlet and gold? He nears the castle, he clears the drawbridge, he lifts the ponderous hammer at the gate. Ah me, he knocks twice! 'Tis only the postman with a double letter from Northamptonshire! So it is we make false starts in life. I don't believe there is any such thing known as first love—not within man or woman's memory. No male or female remembers his or her first inclination any more than his or her own christening. What? You fancy that your sweet mistress, your spotless spinster, your blank maiden just out of the school-room, never cared for any but you? And she tells you so? Oh, you idiot! When she was four years old she had a tender feeling toward the Buttons who brought the coals up to the nursery, or the little sweep at the crossing, or the music-master, or—never mind whom.—[Ibid.]

We will now take leave of this snarler, and go in quest of "something else," as the clown has it.

Straight and still the baby lies,
No more smiling in his eyes,
Neither tears nor wailing cries.

Nights and days of weary pain,
I have held them close—in vain:
Now I never shall again.

Yearning sore, I only know
I am very full of woe—
And I want my baby so!

She laid her hand upon his arm. She did nothing more. She gently touched him. The trembling hand may have said, with some expression, "Think of me; think how I have worked; think of my many cares!" But she said not a syllable herself.—[Little Dorrit.]

A CLERGYMAN'S THANKS.—We thank Thee for the bountiful repast before us, and the capacity to enjoy it.

Words are things, and a small drop of ink,
Falling like dew upon a thought produces
That which makes thousands, perhaps millions, think.
'Tis strange the shortest letter which man uses,
Instead of speech, may form a lasting link
Of ages: to what straits old Time reduces
Frail man, when paper—even a rag like this—
Survives himself, his tomb, and all that's his.

I was at last able to sit up, and day after day was my Lily's sweet face beside me. Oh! so well do I remember one day, when left alone with her, I called the blush to her cheek by an allusion to the scene in that very room, and asked her if she would indeed be my little Lily. There was no answer at first; but soon the little Bible beside her was opened, and the shining needle pointed me to what I read: "Whither thou goest, I will go; and where thou lodgest, I will lodge; thy people shall be my people, and thy God, my God."

CONTRA.

Anne, if she suffered, showed it in an unusual way. She became cold and grave in society, and for a long time shrank from her friends with unconcealed distaste of their presence and caresses. She avoided the amusements of Portland; left sewing societies, literary circles, and lectures to be upborne by other hands. Her recreation was walking. And no upland lay within attainable distance whose crisp, brown herbage was not trodden by her quick feet; no desolate hill lift its outline against the cold New England sky upon whose summit that lithe and lonely figure had not stood, poised like an eagle half intent to soar sunward, just about to utter its clangorous scream of defiance to the wild north wind; nor was there a forest near whose shade had not whispered her long drawn breath, and answered with passionless sympathy of Nature every pulse of her rapid heart. She walked till the very forces of muscular life gave way; till her round shape was attenuated to absolute wanness, till the blood left cheek and lip for the violet veins that threaded her clear temples and transparent hand, and, faint as death, she could only totter to the end of her garden, and gasp in the summer air for want of the life she had so recklessly lavished. Other tokens of suffering she did not give. She spoke of George Bennett (her lover) when it became necessary, in the same clear and cold tone in which she had last spoken to him, and, except for the utter change in her physique, no one would have imagined her pain. Marcia only knew it in part, when, awaking in the middle of night, led by that mysterious instinct which re-echoes in the pulses of kindred life, she arose and went to Anne, and found her, night after night, stretched on her little bed before the open casement, her hand under her cheek, both colorless as the drapery around them, and her large spiritual eyes, brimmed with undripping dews, gazing into the darkness with a reflex gleam in their depths caught from the quiet constellations beyond.—[Harper.

ADVANCED LIFE.

The sunshine is a glorious birth;
But yet I know, where'er I go,
That there has passed away a glory from the earth.
—[ODE TO IMMORTALITY.]

Two thousand years since, common sense was not invented. If Orpheus, or Linus, or any of those melodious moralists, sung in bad verses such advice as a grandmamma would now give to a child of six years old, he was thought to be inspired by the gods, and statues and altars

were erected to his memory. In Hesiod, there is a very grave exhortation to mankind to wash their faces; and I have discovered a very strong analogy between the precepts of Pythagorus and Mrs. Trimmer; both think that a son ought to obey his father, and both are clear that a good man is better than a bad one. Therefore, to measure aright this extraordinary man (Socrates) we must remember the period at which he lived; that he was the first who called the attention of mankind from the pernicious subtleties which engaged and perplexed their wandering understandings, to the practical rules of life. He was the great father and inventor of common sense, as Ceres was of the plow, and Bacchus of intoxication. First, he taught his contemporaries that they did not know what they pretended to know; then, he showed them that they knew nothing; then, he told them what they ought to know.—[Sydney Smith.

HOLLAND.

Deserving scarce the name of land,
She's but the offscouring of the British sand,
And so much earth as was contributed
By English pilots when they heaved the lead.

—[MARVELL.]

A country that draws fifty feet of water,
In which men live as in the hold of Nature;
That feed like cannibals on other fishes,
And serve their cousin German up in dishes:
A land that rides at anchor and is moored,
In which men do not live, but go aboard.

—[BUTLER.]

Come and breathe in this heaven-sent air,
THE BREEZE THAT THE WILD BIRD INHALES;
Come and forget that life has a care
In these exquisite mountain gales—
The breeze that the wild bird inhales.

—[JAMES T. FIELDS.]

BE NATURAL.

"Be natural," is Elinor's injunction to Alton Locke—the sage Elinor, otherwise Kingsley, whose penetration has long since been acknowledged. Yet how few will trust the effort. They will rather conform to the general usage, and appear stiff and conventional, hiding the natural plant by artificial weeds. The difficulty is, we fear our fellows—deem them what they appear, and not what they are. There is a sentiment in every heart, however crusted over, that will always respond to a genuine impulse. Be yourself, then, without fear, and your manner will meet with acknowledgement, as certain as there is a law of affinity. Society then will become a pleasure, and not a bore; and instead of the one man (!) which the social circle aggregates, there will be that variety of character, so piquant and enjoyable! yet a oneness of sympathy which always augments happiness. But it is so hard to break up the habit. When once broken it will never again shackle you. Break it then. Others have done so. You will now and then meet them.

F. G.

Domestic Department.

COFFEE A DISINFECTANT.—Numerous experiments with roasted coffee prove that it is the most powerful means not only of rendering animal and vegetable effluvia innocuous, but of actually destroying them. A room in which meat in an advanced degree of decomposition had been kept for some time was instantly deprived of all smell by an open coffee-roaster being carried through it, containing a pound of coffee newly roasted.

In another room, exposed to the effluvia, occasioned by the clearing out of a dungpit so that sulphurated hydrogen and ammonia could be chemically detected, the stench was removed within half a minute, or the employment of three ounces of fresh roasted coffee, while the other parts of the house were permanently cleared of the same smell by being simply traversed with the coffee roaster, although the cleansing of the dungpit continued for several hours after.

The best mode of using the coffee as a disinfectant is to dry the raw bean, pound it in a mortar, and then roast the powder on a moderately heated iron plate, until it assumes a dark brown tint, when it is fit for use. Then sprinkle it in sinks and cesspools, or lay it on a plate in the room which you wish to have purified. Coffee acid or coffee oil acts more readily in minute quantities.

GUM ARABIC STARCH.—Take two ounces of white gum arabic powder, put it into a pitcher, and pour on it a pint or more of boiling water (according to the degree of strength you desire), and then, having covered it, let it set all night. In the morning pour it carefully from the dregs into a clean bottle, cork it, and keep it for use. A tablespoonful of gum water stirred into a pint of starch that has been made in the usual manner, will give l awns (either white, black, or printed), a look of newness, when nothing else can restore them after washing. It is also good, much diluted, for thin white muslin and bobinet.

HORSE-RADISH SAUCE.—Grate a small stick of young horse-radish; then with a couple of teaspoonsful of it mix a small teaspoonful of salt and four tablespoonsful of cream; stir it briskly, and add by degrees a wine glass full of vinegar. Excellent to serve with cold roast beef.

RICE WATER.—Boil rice till it is perfectly dissolved, by adding water continually, strain it from all particles, and it will be a suitable diet for patients recovering from disordered bowels. It is essential that it be free from all particles, which lodge in the intestines and may cause inflammation.

OATMEAL GREL.—One large spoonful of oatmeal wet in cold water to one quart of boiling water. Boil gently half an hour, and add salt, sugar and raisins if allowed, but the latter should not be swallowed by the sick.

DIPHTHERIA.—Nearly all our children have suffered with sore throat, with two marked cases of diphteria, but thanks to the use of simple remedies, the most valuable of which is a gargle of warm water and salt, they are now out of danger.

TO MAKE INDIAN MEAL CAKES.—To enough meal for breakfast add a sufficient amount of salt; then mix with boiling water to the consistency of a soft batter, and bake immediately on a hot griddle, well greased—the batter to be put on the griddle with a large spoon, one spoonful to each cake. No mixture of Indian meal can exceed these cakes in delicacy and flavor.

TO BROIL A FOWL.—Split the fowl down the back, season it well with pepper and put it on the gridiron with the inner side next to the fire, which must be very clear. Hold the gridiron at a considerable distance from the fire, and allow the fowl to remain until

it is nearly half done: then turn it, taking great care that it does not burn. Broil it to a fine brown. If the fowl is very large, half roast it, then cut it into four quarters and finish it on the girdiron.

INDIAN MEAL MUFFINS.—To a quart of meal pour boiling water, stirring constantly, until a thick batter is formed, and let it cool; while warm add half a teaspoonful of butter, a teaspoonful of salt, and a tablespoonful of yeast, with two well beaten eggs; set it in a warm place for two hours, then stir it smooth, and bake it in small cakes on a griddle; when one side is a rich brown turn the others; lay them singly on a hot dish and serve. These may be made without the yeast and baked as soon as mixed.

FOR RATS.—Mix some unslacked lime with corn meal, and place it where the rats may find it. They soon become very thirsty, and upon drinking water the lime slackens and swells the rat till it kills him. In the Bahama Isles, sponge is fried and placed in their way; they eat it, drink, swell, burst and die. Lime and meal should be—of the first one part, and of the second two parts—well mixed together and dry.

STARCH.—There is no better way of making starch for shirt bosoms, than to boil it thoroughly after mixing, adding a few shavings of star or spermaceti candle; the star or pressed candle is quite as good as sperm. Let the starch boil at least ten minutes, and it will give a gloss, if neatly ironed, fully satisfactory.

MINCE PIE WITHOUT MEAT.—Take four soda crackers, four cups of water, two cups of sugar, one cup of butter, one cup of chopped raisins, half a cup of vinegar, one lemon grated, citron, nutmeg, allspice, cloves, cinnamon, etc., etc.

CLEANING PAPERED WALLS.—The prudent housewife who, on account of the hard times, has determined not to re-paper the sitting room as desirable, will find the old paper very much improved in appearance, by simply rubbing it with a flannel cloth dipped in oatmeal.

CLEANING KNIVES.—One of the best substances for cleaning knives is charcoal reduced to a fine powder, and applied the same as brick-dust. This is a recent and valuable discovery.

A SURE REMEDY FOR A FELON.—Take a pint of common soft soap, and stir in it air-slacked lime till it is of the consistency of glaziers' putty. Make a leather thimble, and fill it with the composition, and insert the finger therein, changing the composition once every thirty minutes. This is a certain remedy.

PARSLEY may be preserved through the whole season, and in every climate by the following simple process: Pull or cut your parsley when full grown, hang it up to dry, and when wanted for use, rub a little of it betwixt the palms of the hand, put it in the pot, and it will immediately resume its smell, flavor and color, though it may have been kept for years.

RHUBARB WINE.—We take the following recipe from the "Farmer's Journal," of Lower Canada. Trim off the leaves and grind and press the stalks in any cider mill. To each gallon of juice add one gallon of water and six pounds of refined sugar, and fill the casks, leaving the bungs out. A moderately cool cellar is the best place to keep it. Fill up occasionally either from juice kept on purpose, or with sweetened water, so that the impurities which rise to the surface while fermentation is going on, may be worked off. When sufficiently fermented, which will require from one to two or more months, bung tightly and let it remain till winter, when it may be racked off into other casks or bottled. Some persons refine it before bottling, by putting into each barrel two ounces of isinglass dissolved in a quart of wine.

Editor's Table.

Trial Subscribers at Half Price.

In order that the public may become better acquainted with the merits of the "Valley Farmer," we have determined to make the following liberal offer. We will send all the numbers for the present year (1862) at half price—only fifty cents. Our present subscribers will confer a favor by making known to their neighbors and friends these very liberal terms. We are satisfied that those who read the "Farmer" one year will never consent to be without it hereafter—hence our proposition.

STRAWBERRIES.—Mr. H. P. Russell, at Ironton, three miles south of the Iron Mountain, writes us that he had made the first picking of Wilson's Albany on the 15th of May. At South Pass, on the Illinois Central R. R., the first picking of the Albany, we are informed, was made on the 14th of May. The Downer's Prolific, Jenny Lind, and Washington, begin to ripen four or five days earlier than the Albany. The first picking of the Albany in St. Louis, was made about the 20th of May—but the last three named varieties preceded it several days. The Downer's Prolific this year has proved the best early variety—looks better, and bears better, and ships better than the Washington, wrongly called herabouts the Early Scarlet. The strawberry crop has been materially lessened by the severe drouth which preceded their time of ripening. The season is two weeks later this year than usual.

THE PEACH CROP.—Notwithstanding a good many of the fruit buds of the peach were killed in February, enough remain to give us a good crop. In all favored localities the crop is abundant, and many of the trees on which it was supposed all the buds were killed, escaped with enough to give a fair crop of fruit. So we may look for a good crop and low prices—just the thing for the million.

MO. STATE HORTICULTURAL SOCIETY.—We had hoped to insert in the present number the continuation of the Discussions of the members of this Society, but our worthy Secretary has failed to forward the matter. We postponed, for two or three days, going to press, hoping the discussions would come, but can wait no longer. We hope hereafter the matter will be promptly on hand.

ICED GRAPES.—The "Ohio Farmer" says:—Take large, close bunches of fine, ripe, thin-skinned grapes, and remove any that are imperfect. Tie a string in a loop at the top of the stem; strain into a deep dish a sufficient quantity of white of eggs: dip the bunches of grapes into it, immersing them thoroughly; then drain them and roll them about in a flat dish of finely powdered loaf sugar till they are completely coated with it, using your fingers to spread the sugar into the hollows between the grapes; hang up the bunches by the strings, till the icing is entirely dry; they should

be dried in a warm place; send them to the supper-table at a party, on glass dishes. Ripe currants may be iced as above. Raspberries, strawberries, ripe gooseberries, plums and cherries may be thus dipped in white of egg, and rolled in sugar.

BLACKBERRY WINE.—To make a wine equal in value to Port, take ripe blackberries or dewberries, press the juice from them; let it stand thirty-six hours to ferment, lightly covered; skim off whatever rises to the top; then to every gallon of the juice add one quart of water and three pounds of sugar (brown will do); let it stand in an open vessel for twenty-four hours, skim and strain it, then barrel it; let it stand eight or nine months, when it should be racked off and bottled and corked close—age improves it. **PROBATION EST.**

P. S. By omitting the water and sugar would it not be nearer Port wine? Try it.

BLACKBERRY CORDIAL.—To three pounds of ripe blackberries add one pound of white sugar; let them stand twelve hours; then press out the juice and strain it; add one-third of good spirits; to every quart add one teaspoonful of finely powdered allspice. It is at once fit for use. Our native grape makes the best of wine, and is easily made.

STRAWBERRIES AND RASPBERRIES FROM THE SEED.—A correspondent inquires the best method of raising strawberries and raspberries from the seed. We have had no experience in the matter, but presume a good plan is to wash the seed from the pulp and plant it in finely prepared ground, and keep it moderately shaded. We believe that the fine seedlings raised in Cincinnati several years ago were started in the hot bed. Will Dr. John A. Warder, who is one of our readers, give us the best plan of raising these plants from the seed?

AGRICULTURE IN SCHOOLS.—The Union School of Huntington, Long Island, has adopted a plan that may be imitated to advantage by other schools. It is a juvenile agricultural society, which holds annual exhibitions and awards prizes, as in other similar exhibitions by children of a larger growth. The premiums are confined to articles produced by the pupils, male and female, but articles for exhibition are contributed by parents and friends to make the fair more attractive. The prizes competed for are composed of books, agricultural papers, and tools, and small sums in cash, for the boys; and thimbles, scissors, needles, work-baskets, teaspoons, etc., for the girls. For the best loaf of Graham bread, a kneading-bowl and a rolling-pin are offered. There is no doubt that such an addendum to a school may prove highly beneficial to the pupils, in a hygienic, moral and industrial point of view.

• • •

COVERING UP GRAPES, &c.—The present winter has added its testimony that in mild winters the grape, raspberry, strawberry, &c., especially the grape, need not be covered. It is the extreme cold, it seems, that does the work. But as no one can foresee, the better way is to secure against the mishap of the season. I find those that were covered, and those that were subject to the winter winds, are equally well to do this spring. *F. G.*

Making Butter.

Set your milk in a room the temperature of which is about 55° Fah. Let it stand about 24 hours; then skim. Be careful and not let it stand till the cream changes. This change will be felt in the butter.

Churn at once, at a temperature of 53°. Churn rather slowly. Wash the butter slowly in cold, very cold, soft water, till all the buttermilk is removed. If the least particle (of buttermilk) is left, it will turn sour and rancid, and thus affect your butter. In summer, this is perceptible in a few days. Hence the difficulty of keeping most butter in the "dog-days."

In salting, take about one ounce of salt to a pound of butter; and be sure your salt is pure, free from lime which sometimes gets mixed with it. The salt should be worked uniformly through the butter, and the butter set away in a cool place for a day and a night, then worked to a rosy finish.

When packed, it should be done in firkins that have not the least taste in the wood, and should be filled for half a week or more with pure water. Then the sides rubbed well with salt. Pack well so as to exclude all air, and cover with salt and water when filled. This will give you sweet, healthy butter, that will keep through the hottest weather.

MONROE (ILLS.) AGRICULTURAL SOCIETY.—The Executive Board of the Agricultural Society met on Wednesday, the 9th inst., at the office of its Recording Secretary, and resolved to hold the Fifth Annual Fair on Wednesday, Thursday and Friday, the 15th, 16th and 17th of October next. A Premium List was ordered to be printed, and the Committees on the different Classes appointed.

Several important changes were made in the rules and regulations: Every animal or article to be exhibited, must be entered on the books of the Register before 12 o'clock, M., of the first day of the Fair. No premium will be paid for any article or animal not mentioned on the premium list. The premiums for sweepstakes are doubled—instead of \$20, \$40 will be given.—[Waterloo Advocate.]

HARRIS ON INSECTS.—The growing interest in our country concerning the insects injurious to farm crops has caused much study and investigation, and the work of T. W. Harris (enlarged and published by the Legislature of Massachusetts, in 1852,) was rapidly absorbed and much sought after by the students of entomology. In 1859, the Legislature ordered a third edition, with suitable additions up to the time, of more recent discoveries, with illustrations, and made an appropriation of ten thousand dollars, putting it at the disposal of the Secretary of the Massachusetts Agricultural Society, Mr. Charles L. Flint. The work has appeared and plainly shows it could not have been placed in more able hands. The illustrations are superbly executed and colored from living specimens by hand, and when carefully examined with the microscope show the downy character of the insects.

The present edition contains much additional matter from the original notes of Mr. Harris, and Mr. Flint has been assisted in the volume by Dr. J. L. Leconte, of Philadelphia, on the Coleoptera; Phillip R. Uhler, of Baltimore, on the Orthoptera and Hemiptera; Dr. John G. Morris, of Baltimore, on the Lepidoptera; Edward Norton, of Farmington, Conn., on the Hymenoptera; and Baron R. Osten Sacken of the Russian Legation, on the Diptera.

The drawings and engravings have been made under the immediate care and supervision of Professor Agassiz, and may be relied on as correct.

Such an array of talent and experience is seldom brought together in one book, and it will be most

eagerly sought for by all who have an interest in Entomology.

As a work of art, the book has not been excelled by any publication that has appeared in this country. The paper is tinted and the type is full and clear.

The Boston publishers are Messrs. Crosby, Nichols & Co. There will be issued at once a cheaper edition for the masses, of which we will say more another time.—[Prairie Farmer.]

GRAPE VINE FLEA BEETLE.—The grape flea has reappeared, says an exchange, and should be destroyed. This may be done by crushing with thumb and finger, if no better way has been discovered. It is a small, dark green bug, with glossy shell, and may be found on a warm day upon vines apparently sucking the oozing sap near the swelling buds. If not killed, it eats its way into the centre of the buds as fast as they shoot forth, and in this way destroys the fruit germ and the leaves of the vine. Pass along your trellises two or three times a day until the marauders are exterminated, which may be done effectually by patient attention as suggested. A sunshiny day is best for their discovery.

AGRICULTURE IN SCHOOLS.—The "Boston Post," in its report of the proceedings of the Massachusetts Legislature, says that a bill to introduce agriculture into schools has passed the house, and the same has passed the Senate, modified so as to provide that it shall be taught BY LECTURE OR OTHERWISE IN ALL THE SCHOOLS IN WHICH THE COMMITTEE DEEM IT EXPEDIENT.

This is a move in the right direction. That agriculture, which lies at the base of a high civilization, should not be left to be learned by chance, seems self-evident. It was a wise provision to provide that it be taught by LECTURE, at least in part. We depend too much on books for everything taught in our schools. A familiar talk with all the school, by one who is well versed in the books, will do much more than a lesson to be recited. Of course, it will be necessary that the teacher know a great deal more than he need to know, to read the question and see if the answer is correct.

It will be a great day for agriculture, when its first principles are taught to all the youth of the land. Then it will not, as now, be so uncertain a pursuit to hundreds of farmers. Agriculture has its laws, and those, rightly used, cannot fail to bring favorable results.

THE ROAD TO POOR FARMING.—As the road to POOR FARMING is not generally understood, though it is crowded with travelers, we throw up the following landmarks, from the Springfield "Republican," for the common benefit:

1. Invest all your capital in land, and run in debt for more.
2. Hire money to stock your farm.
3. Have no faith in your own business, and be always ready to sell out.
4. Buy mean cows, spavined horses, poor oxen, and cheap tools.
5. Feed bog hay and mouldy corn stalks exclusively, in order to keep your stock tame; fiery cattle are terribly hard on old, rickety wagons and plows.
6. Use the oil of hickory freely, whenever your oxen need strength; it is cheaper than hay or meal, keeps the hair lively and pounds out all the grubs.
7. Select such calves for stock as the butchers shun; beauties of runts, thin in the hams, and pot-bellied; but be sure and keep their blood thin by scanty herbage; animals are safest to breed from that have'nt strength to herd.
8. Be cautious in the manufacture of manure; it makes the fields look black and mournful about planting time; besides it is a deal of work to haul it.
9. Never waste time in setting out fruit and shade trees; fruit and leaves rotting around a place make it unhealthy.

REMOVAL OF PLANT AND BRO.'S AGRICULTURAL AND SEED STORE.—The above well-known firm have removed to No. 25 North Main St., between Chestnut and Pine, where they may always be found ready to fill all orders in their line promptly and at reasonable rates.

Charcoal dust proves to be even a greater disinfectant and preservative than has been supposed. Rev. Dr. Osgood has exhibited to the editors of the Springfield (Mass.) Republican, a cutlet taken from a ham which had been kept eight years completely imbedded in that preparation, and which seemed as sweet as if it had been cured only a single season.

CONTENTS OF NO. 6.

Agricultural.

The Army Worm,	161
Osage Orange Hedges,	163
Aleike Clover; Mangold Wurzel,	164
How to Become a Water Witch; Seed and Cultivation; Lime in Agriculture; Advantages of Deep Draining,	165
Essay on the Cultivation of Field Crops,	166
To Preserve Tools from Rust; Worn-out Meadows,	167
Farmers' Club of St. Charles, Mo.; Buckwheat as an Exterminator; To Destroy Wire Worms,	168
Weights and Measures of Various Farm Products,	169
Rot in Potatoes; Harvesting Grass; Cultivation of Fish,	170

Stock Department.

Medium Sized Animals for Work,	171
Veterinary Department—Horses' Feet and the Principles of Shoeing; Pricking and Binding by Nails in Shoeing,	172, 173
Sheep in the West; Cough in Sheep; Novel Cure for Lockjaw; Sows Killing their Pigs,	176

Horticultural.

Peach Borer and Bee Moth; Budded vs. Native Peach Trees; Magnolia Purpurea,	177
Trimming the Grape; How to Ship Small Fruits,	178
The Borer; Paint for Marking Labels,	179
Meramec Horticultural Society,	179
Freezing of Peach and other Fruit Buds; To Keep Bugs from Melon Vines; Grapevines; Management of the Blackberry; Wash for Fruit Trees,	181
Transplanting in the Night; Washing and Scrubbing Trees; Grafting Grapevines; Grafting Wax; Sassafras Bark, a Remedy for Worms in Dried Fruit; Renewing and Preserving Peach Trees,	182

Home Circle.

About Cellars; Love; How Green Tomatoes are as Good as Ripe Ones,	183
Ralph Waldo Emerson,	184
Clippings from Various Authors,	185
Domestic Receipts,	187

Editor's Table.

Iced Grapes; Blackberry Wine and Cordial; The Age of the Guano Deposits; Covering up Grapes, &c.	188
Making Butter; Grape Vine Flea Beetle; Agriculture in Schools; the Road to Poor Farming,	189

CASHMERE GOATS FOR SALE—The owner wishing to reduce his stock, will sell at low prices, 1 Cashmere Buck and 3 Ewes. Also, some crosses between the Cashmere and Malta Goat. For particulars inquire of N. J. COLMAN.

[my'62]

Circular of the Academy of Veterinary Medicine and Surgery of St. Louis, Mo.

The object in establishing an Academy of Veterinary Medicine and Surgery in this city, is to educate persons by practical and clinical teaching for the practice of Veterinary Medicine and Surgery on all the inferior orders of creation, which are the subjects of derangements, maladies and accidents.

The necessity for an Institution of this kind is evident from the fact, that the husbandmen of this and other States are the owners of live stock to an immense amount of money; hence have great interests at stake in the welfare and treatment of diseases incidental to the same.

Hitherto the means for education in Veterinary art and science, have been very limited, and a vast number of the finest stock in the country die prematurely; many of them of unnecessary diseases which might be prevented by proper attention to the laws of physiology and in the rational practice of Veterinary science.

The Veterinary schools of Europe are quite numerous, and rank high in public estimation; they are fostered by governments, associations of husbandmen, and private individuals; and the professional attainments of the graduates of such schools command the respect and confidence of the world.

The study and pursuit of Veterinary science offers a new professional field of usefulness and emolument for the young men of this country, and it is probable that educated Veterinarians will soon find remunerative employment in the service of the Government.

DEPARTMENTS OF TUITION.

ANATOMY AND PHYSIOLOGY.—The Lectures on Anatomy and Physiology will be demonstrated and illustrated by Dissection, and by means of diagrams, skeletons and prepared anatomical specimens.

THEORY AND PRACTICE OF VETERINARY MEDICINE AND SURGERY.—Ample means for acquiring a thorough knowledge of the Theory and Practice of Veterinary Medicine and Surgery, occurs in the practice of the Principal of the Academy, and the same is also taught through the medium of daily Lectures and Recitations.

TEXT BOOKS.—The Text Books used in this Academy are as follows:

Anatomy and Physiology: Percivall, Blaine, Dadd, Carpenter. Chemistry and Pharmacy: Morton's Manual of Pharmacy, and the ordinary Text Books of the Schools of Medicine. Materia Medica: Findlay, Dun, and United States Dispensatory. Theory and Practice: Blaine's Outlines of the Veterinary Art, Dadd on the Treatment of the Diseases of Horses and Cattle, Youatt on the same subjects, and Percivall's Hippopathology. Veterinary Jurisprudence: Oliphant, and the revised Statutes of Missouri.

REGULATIONS.—The Regular Session of this Academy lasts during a period of four months; each Student is required to attend a full course, ere he can present himself before the Board of Examiners for a Diploma of Qualification.

EXPENSES.—The Expenses are as follows: Perpetual Session, \$100. Diploma of the Academy, including Examination Fees, \$25.

Students can obtain board in this City at reasonable rates.

For further particulars, address

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Thos. Lough, Esq., Agent Adams' Express Co.

H. C. Creveling, Sup't of Transfer Co.

N. J. Colman, Editor "Valley Farmer."

Messrs. Glasgow & Harkness.

[my'62]

REMOVAL OF THE WESTERN AGRICULTURAL DEPOT, AND SEED STORE.

We take the occasion in this number of the "FARMER" to announce to our numerous friends and customers, our removal from our old stand No. 68, to that of

NO. 56 NORTH SECOND STREET,

a few doors below our former location, and in the same square, between Pine and Olive streets, where they cannot fail to find us. We would further state that with the removal we have altered the name and style of our firm. Our patrons will please bear these facts in mind so that they may not be led astray.

In our new location we are happy to state that we have increased facilities for conducting our business, and that we have not been idle in the course of the past year in making what necessary preparations and changes as a thorough knowledge of our business dictated.

Farmers and others will find by giving us a call that we have anticipated their wants in the selection of a large and well assorted stock of

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